AN EXAMINATION OF THE EFFECT OF EXTERNAL INFLUENCES ON THE SOVIET NEGOTIATION POSITION IN POST 1962 ARMS CONTROL AGREEMENTS

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

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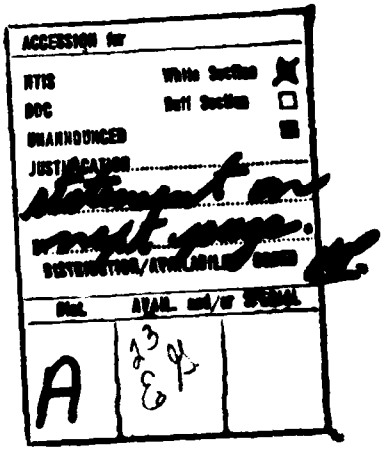
This study articulates the general hypothesis which states that the Soviet negotiating position in post-1962 arms control negotiations is affected to a measurable degree by factors which are normally considered to be external to the military or arms control arena. After summarizing the progress in arms control agreements and the trend of Soviet negotiating positions, the study narrows its focus to the investigation of the effect of domestic factors on the Soviet negotiating position. The dependent variable in the analysis is the trend of Soviet negotiating positions as expressed by concessions and retractions in the negotiating processes which were concluded after 1962. The independent variable is the trend of development and progress, or lack thereof, in the agricultural sector of the Soviet economy. Agriculture was selected as the independent variable because the demand of society for agricultural products is perceived to be much less elastic than the demand for other products in the economy. The correlation of the negotiating position with the agriculture trend was shown by means of an SPSS program to be surprisingly weak, although positive in direction. The study breaks new ground and is intended to be the first in a series which will examine other variables not normally considered to be within the arms control arena.



An Examination of the Effect of External Influences on the Soviet Negotiation Position in Post 1962 Arms Control Agreements

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ABSTRACT

This study articulates the general hypothesis which states that the Soviet negotiating position in post-1962 arms control negotiations is affected to a measurable degree by factors which are normally considered to be external to the military or arms control arena. After summarizing the progress in arms control agreements and the trend of Soviet negotiating positions, the study narrows its focus to the investigation of the effect of domestic factors on the Soviet negotiating position. The dependent variable in the analysis is the trend of Soviet negotiating positions as expressed by concessions and retractions in the negotiating processes which were concluded after 1962. The independent variable is the trend of development and progress, or lack thereof, in the agricultural sector of the Soviet economy. Agriculture was selected as the independent variable because the demand of society for agricultural products is perceived to be much less elastic than the demand for other products in the economy. The correlation of the negotiating position with the agriculture trend was shown by means of an SPSS program to be surprisingly weak, although positive in direction. The study breaks new ground and is intended to be the first in a series which will examine other variables not normally considered to be within the arms control arena.

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CHAPTER I

PERSPECTIVES OF THE SALT AGREEMENTS

A. Introduction

This study will attempt to ascertain the relationship between the negotiating position of Soviet arms control negotiators in post-1962 arms control negotiations and the effect of domestic influences. The trend of negotiations in the form of concessions and retractions is the dependent variable. The trend of development of Soviet agriculture represents the independent variable as a result of the relative inelasticity of demand for agricultural products when compared with other domestic products. The strength of the correlation between the variables may provide insight into the decision-making process in the development of Soviet policy toward arms control and disarmament.

B. Disarmament as a Goal

The cataclysm of the Napoleonic Wars first pointed out the need for an effective means of controlling armaments. This need was further emphasized by the results and nature of World War I and World War II which involved all phases of society in the war and its results.

Early disarmament idealists proceeded from the assumption that men fight because they have arms. Thus, if men give up their arms, fighting will be impossible.[1]

This has been the thrust and argument of proposals made by the Soviet Union and others before the World Disarmament Conference in 1932 and in 1959 which call for total and complete disarmament with the exception of small national police forces. The West has looked upon Soviet motives with reservation and fully aware that the altered status-quo at those times would definitely have been in Soviet favor. However, the logic is one which endears itself to the idealist and the United Nations since 1959, to include the United States as a member of that body, has embraced the goal of "General and Complete Disarmament".

The United States' policy and, in fact, the actual goal of "GCD" has been to achieve this eventual disarmament through pragmatic, piecemeal steps toward agreement on limited measures.[2] The West has held, and in action the Soviets seem to agree, that a relation between arms and war does exist but in reverse of that previously discussed. Men do not fight because they have arms, but they have arms because they deem it necessary to fight. Removal of arms from man will only result in fighting with whatever is available, and war is the condition in the minds of men which make war appear the lesser of two evils.[3]

Continuation of this line of thought results in the following premises:

a) Nations limited in the quantity of arms and men which they can possess will concentrate all their energies upon the improvement of the quality of such

arms as they possess. They would search for new weapons that might compensate for the loss in quantity and assure them an advantage over their competitors. b) Removal of the threat of nuclear war through nuclear disarmament might increase the danger of war without assuring that the belligerents, using non-nuclear weapons at first, would not resort to such weapons in the course of the war.[4]

Thus, nuclear weapons can be outlawed but not the technology required to produce them. It follows, therefore, that while the world is searching for the correct path to general and complete disarmament, the existence of military force to insure national security is necessary. Military forces have traditionally had three strategic roles: offense, defense and deterrence, with deterrence being the role dealt with least until the advent on the world scene of nuclear weapons. While the general meanings of these terms are obvious, the implications of strategic roles of military forces has become much more serious with the development of the arms race from approximately 1957 to the present day, even though slightly altered and limited by Strategic Arms Limitations (SALT) negotiations which will be discussed later.

Prior to 1957, the United States possessed an overwhelming first strike capability in nuclear weapons. But with the launch of the Soviet Sputnik I in that year, the offensive role of nuclear weapons was all but over, as perceived by this author. American response after 1957 to a per-

ceived "missile gap" and Soviet response after 1961 to a real "missile gap" demonstrated that each super power will refuse to accept a situation in which the other might have a first strike capability.

The emphasis of Soviet strategists on strategic nuclear parity as emphasized by an inordinate proportion of gross national product being expended in military development and the unwillingness of the United States to match this expenditure in the long run virtually assured eventual nuclear parity - thus making the use of nuclear weapons in the offensive first strike mode unthinkable. Now, both super powers have an interest in averting a pre-emptive capability on the part of the other, but both also have an incentive to avert an arms race with its inherent dangers: economic costs, inability to accurately perceive each other's intentions and capabilities, and the possibility of overreaction.

The difficulty to be addressed here is the problem of attempting to ascertain how much strategic weaponry is enough to insure a second strike capability and how much is so much as to create fear by the other that a first strike capability is being sought -- intentions versus capabilities. In addition, both super powers have interests beyond the dissuasion of attack by the other on its homeland -- the use of nuclear weapons to serve a larger political purpose. The two remaining and more realistic roles of nuclear weapons -- deterrence and defense -- are, on the surface, quite compati-

ble. In the event the enemy is not deterred from attacking by our ability to survive a first strike and deliver retaliatory blows surely the ability of our defensive systems to limit damage to ourselves and insure survival of retaliatory systems will reduce the expected net gain from preemption and avert such ideas. On the contrary, the perceived need for a second strike ability by each of the super powers gives the introduction of defensive systems by one the appearance of an implied offensive action, triggering a more intensified arms race as the threatened side increases the size and penetrating ability of its strategic systems. The problem is one of perception. The initiator of the defensive system sees that, perhaps, his action poses no offensive threat to the other. However, the other side only perceives a possible relative reduction in his second strike capabilities and a possible intention to achieve first strike capability by the originator of the defensive system. Thus, the need to choose between deterrence and defense has resulted in the super powers' exercising the option for deterrence with minimal defense, as shown later.

The decision to choose between deterrence and defense[5] has been made by the super powers in favor of deterrence as evidenced by former Secretary of Defense Robert McNamara's doctrine of "assured destruction capability" which is adhered to even in the present day and is further enunciated in the SALT accords. Deterrence as a strategy still is fraught with problems due to the absence of a true stability and

mutual insecurity. Each side has its questions about the credibility and willingness to retaliate on the part of the other.

As one can imagine, the maintenance of such a continuous confrontation is costly in funds and time. The need to achieve stability in a steadily worsening situation was recognized by all concerned - the need to begin negotiation on the limitation of strategic nuclear weapons.

C. Agreements Prior to SALT

The Strategic Arms Limitation Talks are certainly not the first step in the continuing attempt to reduce or eliminate the possibility of nuclear warfare. SALT is another step in the somewhat sporadic string of agreements, the most noteworthy of which will be discussed here.

The year 1959 resulted in a treaty to preserve the Antarctic as a nuclear free zone of peace, an agreement which was expanded in later years as satellite technology allowed verification of compliance to cover outer space (1967), Latin America (1967) and the Seabed and Ocean floor (1971).

The Nuclear Nonproliferation Treaty, an instrument of the United Nations, has been a cornerstone of U.S. nuclear policy since its negotiation in 1968. This treaty, which has been signed by nearly one hundred nations, is a commitment on the part of non-nuclear states not to seek to acquire nuclear weapons and a commitment by nuclear nations to refrain from exporting nuclear military technology or materials. The policy of the United States as enunciated by

Secretary Kissinger on 9 March 1976, is that the United States will provide long-term assurances to non-nuclear states that the United States will provide technical assistance and carefully monitor nuclear fuels for development of peaceful nuclear energy programs. This will reduce the incentive for a nation to seek nuclear weapons technology.[6] In addition, Kissinger stated that it is incumbent upon nuclear powers to proceed with meaningful arms negotiations in order to increase world stability to a point where there will be little incentive on the part of non-nuclear states to develop nuclear weapons.[7]

The 1962 missile crisis led to an agreement to establish a Moscow-Washington hot line to eliminate misunderstanding and miscalculation. This was updated in 1971 to include addition of communications satellites and expanded networks of this system.

A 1963 limited nuclear test ban treaty forbad the testing of nuclear devices in the atmosphere, outer space, and underwater (those environments where verification was possible) but permitted underground testing due to the problem of verification and on-site inspection. This problem was further addressed in 1974 as will be discussed later.

In 1971, as a prelude to the SALT agreement, an agreement emerged in which the super powers agreed to guard stringently against accidental use of nuclear weapons and instituted procedures for rapid notification of the other side of planned missile launches or the appearance of un-

identified objects on early-warning radar.

Considered collectively, these agreements reflect a growing concern on the part of the super powers and the world over the dangers of nuclear war and the implications of inaccurate perceptions of goals and intentions.

D. SALT I Agreements

President Johnson first proposed talks on limiting strategic arms in 1964 and he won an agreement in principle from Soviet Premier Kosygin in 1967. Nevertheless, formal negotiations did not begin until November 1969. The Soviet invasion of Czechoslovakia in 1968 caused the first delay, and the American election and the desire of the new president (Nixon) to make his own calculations and formulate his own negotiating strategy caused a further delay.

By the time the talks were actually started, the Soviet Union had begun installation of an antiballistic missile system (ABM) around Moscow and the Department of Defense was uncertain as to whether the "Tallinn" antiaircraft defenses were being upgraded to defend against incoming missiles, although later evaluation showed that they were not. A substantial ABM program (Sentinel) had already begun in the United States during Johnson's administration, leaving questions in the Soviet minds whether it was designed to counter the immediate threat of new Soviet missiles or a potential threat from China.[8]

When Nixon assumed office in 1969, he faced an immediate problem of what to do with the Sentinel Program.

Slated for location near Chicago, Boston and other cities, the system was meeting strong opposition from people living in the proposed protected areas, from experts who doubted the reliability of such a system, and from those who opposed an active defense as threatening the doctrine of "mutual assured destruction". At the same time, there was reluctance on the part of the administration to terminate unilaterally a program that was also one of the main subjects to be covered at SALT. Nixon shifted the focus of the system by substituting Sentinel for an ABM defense of Minuteman intercontinental ballistic missile sites, not of cities at least in the early stages of development.[9] By a narrow margin, Congress approved initial deployment on a modest scale of this system which now bore the name "Safeguard".

The mere possibility of the possession of workable ABM systems by either side would, in the United States' view, cause a chain reaction leading to an over-compensating action-reaction arms spiral due to the fear of each side that the other might achieve a first strike capability. However, the United States viewed the emerging Chinese nuclear threat as a force that had to be dealt with.[10] In a speech in March 1969, President Nixon enunciated the United States rationale for deployment of the Safeguard system as being a means of protecting an adequate portion of U.S. offensive weapons to respond to a Chinese attack, while at the same time leaving American cities unprotected - a virtual hostage to guarantee the Soviet Union that the United States had no first strike

capability.[11] Nixon's "Hard Point Defense" doctrine, however, was undoubtedly perceived by Soviet leaders as a possible or eventual threat to the Soviet deterrent force and the intensity of the arms race grew, each side feeling it necessary to overestimate its opponent's capabilities and responding to that overestimate to insure adequate protection. Thus, in future negotiations it became clear that deterrence and defense, in the strategic nuclear arena, are incompatible objectives since one threatens the other and the resulting instability and uncertainty of intentions increase the arms race and raise tensions.

While the controversy centered around defensive weapons, a new development in offensive weaponry threatened further to destabilize the strategic situation and had perhaps already spurred the installation of the Soviet ABM. This new device was MIRV (Multiple independently targetable reentry vehicle). In such a system, every missile carries several warheads, each capable of flying to a different target. Taken together, these warheads may be no more powerful than the old single warhead; but there are many more of them - perhaps enough to overwhelm an opponent's ABM system and destroy a sufficient number of the opponent's missiles in a first strike to limit to acceptable levels the damage he could inflict in a second strike. Once again, the mutual strategic deterrence was in jeopardy since a massive ABM system would be needed to counter MIRV.[12]

The purpose of SALT I was to seek a stable balance

between the nuclear forces of the two countries even though it is difficult to arrive at a standard for evaluation of capabilities. The three methods of comparison are a) number of missile launchers and bombers, b) the number of deliverable warheads and c) the amount of payload carried by delivery vehicles.

Much discussion centered on long-range ballistic missiles, both land based (ICBM) and submarine launched ballistic missiles (SLBM). Prior to the SALT I agreement, the Soviets had achieved a lead in total number of missile launchers but the United States has consistently had the advantage in number of warheads, even with Soviet MIRV deployment subsequent to SALT I. The generally higher "throw weight" Soviet missiles provides the Soviet Union with a substantial advantage. in total "throw weight" that its ICBM's can deliver.

In 1972, at the time of the first SALT I agreements, the USSR had over 1500 ICBM launchers in service or under construction, the bulk of which consisted of liquid-fueled missiles carrying warheads with yields ranging from 1 to 5 megatons and the SS-9 missile which has a 20 to 25 megaton yield. The U.S. land based missile force consists of 1,054 ICBMs, of which 1,000 are Minuteman I and II with single warheads and Minuteman III which carries a 3 MIRV warhead. There are also 54 older Titan missiles which carry payloads of 5 to 10 megatons. The United States describes the Titan as a "heavy" ICBM.

As for submarines, the United States, in 1972, had 41 nuclear powered missile-firing submarines (SSBN) with intermediate range Polaris or the larger MIRV-carrying Poseidon missile. At the present time, the United States is continuing development of the Trident underwater long-range missile system which was scheduled for deployment in 1978. Soviet SSBN forces date only from the late 1960's and are comparable to the early Polaris system with the exception of the 4,200-mile SLBM which is being deployed.[13]

Strategic bombers were often not counted in comparison, but their supporters praise their heavy payloads and human pilots' ability to take evasive action. Bomber effectiveness has been increased with standoff air-to-surface missiles (cruise missiles), but the U.S. B-52 bomber force is aging.

There was little doubt during the negotiations of the accuracy of these numbers. Indeed, serious negotiations became possible only with the advent of satellite surveillance techniques and camera and radar technology. Both sides had, by 1971, perceived that approximate parity in strategic offensive nuclear weapons had been reached, giving each side an increased incentive and ability to seek stability in the arms race since the alternative would eventually mean the destruction of both. Soviets saw the momentum of development in their favor, at least in the short run with a long-run conventional superiority.

After two and one-half years of talks and 130 separate

meetings in Helsinki and Vienna, the United States and the Soviet Union arrived at an interim agreement to limit defensive and offensive strategic nuclear weapons. These agreements, called collectively SALT I, were signed in Moscow on 26 May 1972, by President Nixon and General Secretary Brezhnev.

The SALT I actually contains two agreements. The first is titled the Treaty on Limitation of Anti-ballistic Missile Systems and permits each side to deploy two complexes of interceptor missiles and associated radars, one for the defense of an ICBM site and the other for the defense of the national capital. In addition, each side agreed not to attempt to interfere with national means of verifying compliance (e.g., satellites) or to take deliberate concealment measures.[14]

The second document signed on that date was an interim agreement on offensive weapons limits - The Interim Agreement on Certain Measures With Respect to Limitation of Strategic Offensive Arms. Both the United States and the Soviet Union agreed to a five-year freeze on missile deployment as of 7 October 1972, pending a permanent agreement. Limits were placed on the number of fixed,land-based ICBM launchers and on SLBM launchers. (No limits were placed on strategic bomber forces.) The USSR was allowed a total of 1,618 ICBMs and the United States 1,054.[15] Thus, the Soviets came out ahead on number of ICBM launchers and in "throw weight". The United States is currently deploying

MIRV on Minuteman III missiles (550) for a total of 2,100 warheads on 1,000 missiles for an advantage in total warheads. However, it is interesting to note that in 1972 it was not believed that Soviet MIRV development would be completed in the forseeable future. However, the Soviets currently have operational MIRVs; and the newer SS-19 also has that capability. Inorder to guard against the substitution of larger Soviet missiles for the 1972 series, the United States succeeded in inserting the provision that "heavy" ICBM for light would not be allowed (although Soviets refused to define "heavy") and that missile silos could not be increased in size by more than 10 to 15 percent.[16] The implications of this controversy will be discussed later in relation to recent Soviet qualitative advances.

The ceiling placed on SLBM launchers and submarines was considerably higher than expected inventories on both sides. It was seen that since submarines are almost invulnerable, by 1972 standards, there are no advantages to possessing more than required for a second-strike capability. Within the agreed limits, deployment of more launchers than the treaty allows requires offsetting reductions in older types. A protocol to this agreement stated that the United States may have up to 710 missiles on 41 sumbarines and the USSR up to 950 on not more than 62 submarines.

In sum, the SALT I accords granted a form of parity with the USSR as having the advantage in the number of missiles and delivery weight while the United States retained

the advantage in numbers of warheads. This is, again, without considering a Soviet MIRV capability and forward-based systems in Europe on both sides. So the goal of SALT I had been realized in that the growth of numbers of nuclear systmes was slowed, providing, as Secretary of State Kissinger stated at the time, the trend would continue and SALT II talks would proceed. The arms race was modified from a quantitative to a qualitative race.

On 3 July 1974, Nixon and Brezhnev met again in Moscow and signed a modification of SALT I which, while breaking little new ground, served as a link to the SALT II negotiations which were underway at the time. A limit to underground nuclear testing was established at 150 KT and the USSR agreed "in principle" to on-site inspection of nuclear weapons tests. Also, ABM sites were limited to only one for each side, each deciding to cease deployment at 1972 levels.[17] By this time, MIRV had replaced ABM as the major destabilizing element in the nuclear balance.

E. Mutual and Balanced Force Reduction in Central Europe

Negotiations on the control of conventional arms have made little progress but show some promise. In particular, negotiations between the Warsaw Pact nations and NATO members on mutual force reductions in Europe resumed in the summer of 1975, but after several years of talks, there is still little evidence of significant progress. The United States and her NATO allies want to limit the negotiations to the setting of manpower levels in Central Europe. The Soviet

Union contends that any agreement must include air forces and nuclear weapons in Europe, as well as forward-based nuclear delivery systems that are capable of striking the Soviet Union. In the absence of an agreement, the United States and her allies face strong domestic pressures to reduce their conventional forces in Central Europe, an area in which the Soviet Union continues to increase her manpower and to deploy advanced offensive and defensive weapon systems.

The first call for MBFR was made in June 1968, by NATO ministers meeting in Reykjavik, Iceland. After it was clear that the United States was not going to make unilateral reductions, the Warsaw Pact indicated that it would discuss the subject only as part of a European Security Conference (June 1970).

The Soviet Union proposed negotiations on mutual force reductions in Europe in May 1971, after it became clear that, in spite of a partial Bonn-Moscow rapprochement, Chancellor Willy Brandt was not going to push for NATO force reductions. This proposal by the Soviets put a temporary end to the controversy in the United States over the need or desire for unilateral force reductions in Europe. It was argued by the Administration that unilateral reductions would eliminate the possibility of gaining concurrent Soviet reductions. Soviet desires for mutual and balanced force reductions in Europe have been primarily political while United States goals have been primarily economic in nature.

The basic feature of the Western proposal in the

MBFR talks has been that the area of force reduction should include the countries of Central Europe, to include Belgium, Czechoslovakia, East and West Germany, Luxembourg, Poland and the Netherlands. Further, the reductions should be aimed at altering the numbers of opposing ground (tactical) forces on both sides by placing a ceiling on allowable military manpower in this area with a goal of achieving a parity in Central Europe. The West sees the greatest threat from a possible incursion into Central Europe by tactical forces attempting to gain control of territory.

The NATO proposals further state that the reduction of forces must be achieved in two increments, the first step being withdrawal of portions of the United States and Soviet manpower followed by other NATO forces and Warsaw Pact forces. In addition, since a primary goal of the negotiations is to achieve mutual confidence in order to reduce tensions, adequate verification measures should be established and both parties must include a commitment to continue negotiations to gain even greater force reductions in Europe.[18]

There are significant points of disagreement in that the Soviets seek only a proportional reduction of forces rather than a force ceiling, a proposal that would retain Warsaw Pact superiority in those areas in which they currently have a lead. Of even greater importance to the Soviets is the presence of NATO forward-based systems which have strategic value, and that is the area in which they wish to concentrate negotiations. Their stand on verification is some-

what ambiquous.[19]

Strateqic planners have lonq believed that Western Europe's security depends upon the United States' nuclear quarantee; the Soviet Union is presumably deterred from even contemplatinq military attack by the knowledqe that the United States, in response, would strike at the Soviet Union, even at the price of retaliation on the United States' homeland. The mere presence of U.S. forces in Western Europe along with their extensive array of tactical nuclear weapons is regarded by European nations as a guarantee the United States would, in fact, respond even though SALT I agreements virtually assure the Soviet Union a second-strike capability.

MBFR is linked to the question of strateqic arms limitations because the Soviets regard the American fighter-bombers based in and around Europe as strateqic (as well as many of the tactical medium ranqe missiles) since these systems are capable of reaching Soviet territory with nuclear weapons. The United States insists that these forward-based systems only match the Soviet IRBMs and MRBMs that threaten United States' allies in Europe.

In spite of the advantaqe to be gained in stability by a carefully constructed MBFR agreement, there are major stumblingblocks to an agreement. In view of the continuation of the SALT process, withdrawal of any United States forces could be viewed by NATO allies as a weakeninq of United States resolve to defend Europe. Additionally, the withdrawal of Soviet forces in a mutual reduction will amount

to only several hundred miles while United States withdrawals would be to CONUS.

F. The Vladivostok Agreements - November, 1974

President Ford and General Secretary Brezhnev, meeting in Vladivostok in November, 1974, agreed, in principle, that each country would be limited to 2,400 long-range missiles and bombers, including 1,320 land-based and submarine-launched missiles capable of carrying multiple warheads. The ceiling on offensive weapons was to be incorporated into a binding agreement extending until 1985, the two countries having already been bound until 1977 to the SALT I agreement which froze offensive missiles at 1,710 and 2,348 for the United States and the Soviet Union respectively. This SALT I agreement, as previously mentioned, did not cover bombers and multiple warheads. A difficult problem for SALT II talks has concerned verification of the number of nuclear warhead missiles on each side. Once they are deployed, it is difficult to distinguish missiles with single warheads from those with multiple warheads. The Vladivostok agreement states that if either country tests a certain type of missile with multiple warheads, it would be assumed that, once deployed, all such missiles would be equipped with multiple warheads. Conspicuously absent in the agreement was a statement as to whether Soviet Backfire bombers and United States cruise missiles would be included in the 2,400 limit.[20]

The Ford Administration hailed the agreement as a major achievement in halting the arms race, but critics charged

that it would only encourage another buildup in qualitative areas. During the ensuing months, cirtics of the Vladivostok accords appeared to have been vindicated and the hopes of the Ford Administration for a quick formal SALT agreement were not realized. The SALT negotiations deadlocked on a number of difficult and contentions problems. In the meantime, the United States continued its program of MIRV deployments, the development of the new B-1 strategic bomber, and a new missile submarine - the Trident. In January, 1975, the Defense Department announced the initial deployment of Soviet MIRV warheads on two new missile systems as part of a continuing Soviet military buildup. In addition, the accuracy of Soviet missiles has significantly improved, raising questions about a possible Soviet first-strike threat.

G. SALT II Progress

The SALT talks were stalled by the inability to resolve issues that the hastily defined Vladivostok terms had ignored or left unclear. First, the United States argued that there was no way to determine with certainty which missiles carried MIRV warheads. Therefore, the United States proposed to count all Soviet missiles of a given type which had been tested with a MIRV warhead against the 1,320 ceiling, which the Soviets agreed to. In addition, the United States has insisted that the new Soviet Backfire bomber, which does not have a roundtrip intercontinental range without refueling, be counted against the Soviet's total of 2,400 missiles and bombers. A possible solution is a limitation on

Soviet flight refueling capabilities. The Backfire had been excluded from the Vladivostok agreement, and, if included, would put the Soviet Union over the 2,400 limit. For its part, the Soviet Union insisted that cruise missiles be counted in the 2,400 ceiling on total weapons. The U.S. Navy and Air Force have, for some time, been developing such long-range jet-propelled missiles, and, if counted against the 2,400 ceiling, either these missiles or other strategic missiles (ICBM/SLBM) would have to be scrapped.

There are arguments both for and against limiting cruise missiles in SALT. The technology involved is applicable to a wide range of capabilities to include the use of conventional and nuclear warheads. As a conventional weapon, their accuracy can give naval forces a great tactical tool. However, since they are multi-purpose, if they are deployed prior to SALT II agreement, the verification of conventional or nuclear capability by either side is virtually impossible if they are included in the 2,400 ceiling.[21]

The question of the definition of what constitutes a "heavy" ICBM was undecided in SALT I, although the United States sought to limit indirectly the hard target counter-force threat by the provision that limits silo dimension increases to no more than 15%. The Soviet desire to categorize the new SS-19 (with MIRV) as a light ICBM will allow them to retain all of their previously classified heavy missiles. The volume of SS-11 is 69 cubic meters while the SS-19 is 100 cubic meters. Although the United States uni-

laterally stated that the "light" classification of ICBM (SS-11) could be enlarged by no more than 15%, the Soviets did not acknowledge this.[22] Although the United States can hardly back down, the USSR had begun deployment of SS-19 and is not likely to stop this project.

Although the question of forward-based systems was not specifically addressed in Vladivostok, the Soviet Union considers this as a central issue. The existence of United States forward-based tactical aircraft and medium-range missiles also constitute a nuclear threat to the Soviet Union, as do strategic nuclear forces of NATO allies. The United States has strongly insisted that SALT II agreements contain a commitment on both parties to early SALT III negotiations to aim at force reductions. Soviet negotiators have insisted that in return an item on the agenda must be United States forward-based systems and allied strategic forces.[23]

By late 1975, the Backfire and cruise missile issues had not been resolved, and due to a lack of progress in the other areas, a trip to the United States by Brezhnev scheduled for June 1975, was cancelled. As a further and more dramatic reaction to the deadlock in negotiations by September, the United States threatened to undertake a more vigorous strategic arms buildup on its part if an acceptable SALT agreement were not forthcoming in the near future.

H. US/USSR Strategic Balance

The ABM treaty and the interim agreement on strategic offensive arms as well as the agreements which emerged in

1974 at Vladivostok reflect the relative strategic parity that now exists between the United States and the Soviet Union. While the USSR has a substantial advantage, not only in numbers of strategic missiles but also in missile throw weight, the United States still has a substantial advantage in other areas of key importance to the overall strategic balance - missile accuracy, MIRV's, submarine quietness, sonars and numbers of bombers and their payload. And, while the Soviets have a substantial advantage in air defense, without an extensive ABM defense (the attainment of which is precluded by SALT I agreements), their air defense could be substantially undercut by ballistic missile attack, particularly an attack involving a large number of MIRV's.

The United States' advantages are, however, inherently transitory in that they rest on a United States technological lead that has been steadily narrowing over the past decade. The SALT I accords do not, as previously noted, provide any significant constraints on qualitative improvements in the strategic missile forces, nor do they provide any limitations on the strategic bomber forces. Consequently, given the current momentum of the Soviet offensive research and development program, we cannot preclude the possibility that our technological lead may further diminish or disappear in the near future.

The United States' qualitative lead in SLBM's has already been challenged by the Soviet introduction of an operational 4,200-nautical-mile range SLBM.[24] The United

States Trident C-4, its equivalent, will not be operational until late 1978. The new Soviet missile, however, carries a single reentry vehicle; while the Trident C-4, like the Poseidon, will carry a MIRV payload. This advantage may also be transitory as the Soviets have made progress toward a useful MIRV capability and, in fact, have that capability now.

The United States has a significant advantage over the Soviet Union in submarine quietness and in sonars; but here again, Soviet progress is developing. The newer classes of Soviet nuclear submarines are considerably quieter than older models; and progress is being made in sonar technology.

The new Soviet Backfire bomber represents a significant advance in aircraft technology, even though there is still a question about its primary mission. It is the first Soviet supersonic bomber with a variable-geometry wing, and it probably is designed for air-to-air refueling. Thus, given a suitable tanker force, the Backfire could prove to be an effective intercontinental bomber.[25]

There are numerous other areas of importance to the strategic balance where the Soviet Union is steadily narrowing our technological lead, or may have already overtaken the United States. Moreover, Soviet leaders have made it clear that they intend to press forward in the strategic area within the bounds of the SALT agreements.

In May 1972, at Kiev, USSR, Secretaty of State

Kissinger stated that: "This agreement (SALT I), if it is not followed on by other negotiations will, over a period of time, permit a qualitative race". This has, in fact, been the case. SALT I accords had the short run goal of temporarily limiting or placing a ceiling on the growing volume of strategic weapons in the inventories of the two superpowers. SALT I effectively assured the second strike capability of each side, thereby reducing uncertainty and tension. The Vladivostok agreements were a step in the direction of bringing the total numbers of warheads, and to some degree destructive power, into line with one another.

I. Looking Ahead

It would appear that whether or not the SALT II treaty is finally negotiated, significant dangers lie ahead for the United States if negotiations are not conducted in an extremely careful manner. The rate of Soviet technological progress cannot be underestimated as may have been done in SALT I negotiations. Additionally, insight into the factors that affect Soviet negotiators and influence the trends of the negotiation process will be increasingly valuable as their complexity and consequences increase.

Even with SALT II a distant possibility, it appears that both sides will have a greater hard-target counterforce within the next decade. Greater Soviet missile throw-weight, in addition to MIRV technology, will perhaps appear to approach a first-strike capability if the United States fails to progress as it should. It may even be feasible and

attractive to seek eventually improvements in the token "Safeguard" ABM system to defend American ICBM forces. At any rate, the threat will most certainly remain.

On the other hand, SALT II agreements and ceilings could promote a degree of confidence at least in our knowledge of the upper limits of Soviet and U.S. deployments and perhaps, in the long run, retard the pace of qualitative arms improvements. The goals of negotiations to date have been addressed with varying degrees of success. Those goals are:

a) to reduce strategic armaments;

b) to reduce incentives for a pre-emptive strike by either side;

c) to reduce the possiblilty for accidental miscalculation;

d) to increase the time available for decision-making through improved communications;

e) to change the international political climate to lower tensions through reduced uncertainty;

f) to prevent proliferation of nuclear armaments.

Central differences in ideologies will remain and will remain incompatible, but the lessening of tensions born of greater confidence in strategic force levels and more accurate perceptions of intentions, capabilities, and motivating influences will, in the long run, make the likelihood and desire for nuclear confrontation diminish. As Soviet society experiences a higher standard of living and presses for greater proportions of GNP for consumption, as Soviet bureaucracies become more entrenched and exert more influence over determination of tional objectives, it will become increasingly

important for the United States to be aware of the effects of events external to the actual negotiating process on Soviet actions and decisions.

FOOTNOTES - CHAPTER I

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CHAPTER II

SOVIET POLICY TOWARD ARMS CONTROL

A. Introduction

The previous chapter outlined the progress that has been made and some of the failures that have occurred in the arms control arena. In order to proceed further, it will be necessary to acquire a general understanding of the evolving Soviet attitude and policy toward arms control and arms-control agreements.

The multinational process -- primarily United States versus Soviet Union -- of seeking balanced and stable armament levels can be divided for convenience into three phases: a) 1945 to 1952, a period of negotiation for international control of atomic energy both as an energy source and as a weapon; b) 1952 to 1962, with disarmament with universal abolition of military forces as a goal; c) 1962 to present, arms control with a stable balance of forces existing at an agreed-upon level of quantity and quality, primarily designed to deter military attack by the other side. Similar objectives and tactics have dominated Soviet diplomacy throughout all of these periods.

B. Soviet Foreign Policy Goals

In the past, Russia's geographical position has exposed her to continuous depredations and subjugation from all directions -- an inevitable consequence of political disunity

in a geographically indefensible community. But, although geography simplified the conquest of a divided Russia, it also facilitated the expansion of a united and powerful Russian state, which pushed out in all directions until it was arrested by superior force.

In the absence of real geographical obstacles to her enemies, Russia's physical security became irrevocably attached to land space, while her psychological security became inseparable from political centralization.

It is a fact of Russian history that this dual quest for physical and psychological security has produced an interesting pattern in Russian foreign policy -- a divided Russia invites attack, but a united Russia stimulates expansion in all directions. This fact is, perhaps, not unique to Russia but its effects have been very pronounced. The revolution in 1917, and the purges of the 1930's, exposed a divided Russia to the world and invited intervention. But in each crisis, after surviving the initial assualt, she embarked upon a course of action to expand her borders beyond the previously existing limit with spectacular results in Eastern Europe after World War II.

The Bolsheviks inherited not only the geography and natural resources of Russia, but also the people and the history and the culture. While Marxism changed the goals and the political structure, the decision to retain Russia as a nation-state -- even if only on a temporary basis -- meant that the new Soviet Union could not evade assuming the con-

tours of a Russian state and falling heir to the assets and liabilities of its predecessors. Although Lenin wanted to completely sever Russia from her past, it was not possible at the time to rid the new Soviet Republic of the disadvantages of tsarist diplomacy. Designs on Soviet territory came from the same quarters; exposure to attack remained in the same places; and the economic and commercial lifelines of the tsars became no less indispensible to the new regime. Even though the new regime desired to form a completely new state, the outside world refused to permit the Soviet Union to evade the problems and vulnerabilities which had been so much a part of the Russian past. The Marxist doctrine not only reinforced the psychological obsession for security, but provided an ideological rationale for assuming the hostility of the outside world and sanctified Russian expansion with the ethical mission of liberating the downtrodden masses of the world from their oppressors.

National interest goals of the Soviet Union are essentially the traditional goals of Tsarist Russia and include a) a search for national security through territorial expansion and with a large but heretofore technically inferior military force; b) Russian messianism and desire for recognized status among the nations of the world; and c) Russification or the absorption of the many cultures which make up the Soviet Union.

These national interest goals of the Soviet Union are not as difficult to merge with the ideological goals as one

would imagine. It is interesting to note that expansionism is inherent in the Leninist ideology, since the Soviet state was conceived as an ideological state without fixed geographical frontiers. Not only did this idea of the Soviet Union as the nucleus of a universal communist state receive expression in the basic documents of the Comintern,[1] but the Soviet constitution of 1924 proclaimed the new union to be open to all future Soviet republics and another step towards the union of proletariat of all countries into one World Socialist Soviet Republic.[2]

Ideological goals of the Soviet Foreign Policy can be summarized as encompassing four main features: a) destruction of capitalism which simultaneously means the total world wide victory of communism; b) the destruction of imperialism or the imperial/colonial relationship, which has largely disappeared; although this term is often used in the same breath with capitalism, its use is apparently designed to appeal to newly developing nations; c) unity of socialists either by force as in Czechoslovakia or through common needs and goals; d) construction of a communist society made possible by the promotion of an international climate which will facilitate the march of history from capitalism to socialism to Communism; e) in addition, the goal of peaceful coexistence is important and forms another link with national interest goals. Peaceful coexistance meant a modification of Lenin's doctrine which will be discussed later and means a peaceful competition short of major war for the purpose of

gaining advantage.

A summary understanding of Soviet goals as a combination of national interest goals and ideological goals which operate simultaneously and interact upon each other is important for an accurate appraisal of Soviet conduct in the nuclear armaments negotiating process from 1945 to the present.

C. Negotiation for International Control of Atomic Power: 1945 to 1952

The United States emerged from World War II with a virtual monopoly on atomic weapons, a monopoly which everyone assumed would be short-lived in spite of Soviet statements that such weapons were not necessary.[3] The British especially were adamant in their reservations that the combined effects of an allied monopoly on atomic weapons plus Soviet fears would result in a situation where no real peace could develop. The first allied statement concerning control of atomic weapons was produced by the United States, France and the United Kingdom. This statement described an idea to be later developed into the Baruch Plan.[4] The rush of the United States to dismantle its huge land force left the Soviet Union with a dominant conventional force in Europe and the United States with a large global air force. Europe was to be the hostage of an aggressive Soviet policy.

On 24 January 1946, United Nations Resolution #1, jointly sponsored by the United States, the Soviet Union and the United Kingdom, created a United Nations Atomic Energy

Commission in general and non-specific language.[5] In June 1946, the United States, in the form of the Baruch Plan, presented a plan to that commission which outlined a proposal to submit all atomic energy to international control.

A summary of points addressed in the Baruch Plan is instructive here since the Soviet reaction to that plan is clearly indicative of Soviet policy during this period. The main points of the plan were:[6]

- international ownership and management of all atomic energy facilities by an International Atomic Development Authority to be created by the United Nations;
- punishment for nations which produced, possessed or used atomic weapons;
- activities of proposed IADA would not be subject to Security Council veto;
- upon implementation of a system of international control,(including inspection and surveillance), removal and destruction of all existing atomic weapons.

The Soviet Union responded on 19 June by calling for an "International Convention to Prohibit the Production and Employment of Weapons Based on the Use of Atomic Energy for the Purpose of Mass Destruction".[7] The points in which the Soviet proposal differed from the Baruch Plan called for a) a declaration of prohibition to precede the establishment of a control system, and b) assignment to the Atomic Energy Commission the responsibility of supervision but with the AEC being subject to Security Council veto.

Therefore, the points of disagreement between the

Soviet Union and the United States were to include the veto question, the question of the priority of prohibition or control, and the nature of the control measures to be used. Clearly the Soviets regarded the question of control measures to be a political problem while the Western powers saw it, or stated it, as a technical question.

The heart of the controversy was Soviet determination to resist internationalization of its future atomic industry. To a nation which perceived herself as surrounded by enemies but with a superior ideology and eventually on the winning side of an evolving correlation of force, the objectives of the negotiations were potentially more harmful than the status quo.

In the Soviet view, the atomic bomb would not be the most decisive factor in winning future wars and the greater fear of non-communist control of any segment of the Soviet economy would threaten communism in the USSR. The Revolution would be threatened.[8]

Although the leaders in the Kremlin saw a potentially serious threat in the United States' nuclear monopoly, the threat of foreign penetration of Soviet economy and industry played the greatest role in shaping Soviet negotiating policy during this period. Soviet opposition to imposition of sanctions by a third party was based on the acceptance of international conflict as a part of the functioning of history. It would be impossible to find officials to implement any agreement who are truly unbiased, and the AEC would most

certainly have a capitalist outlook.[9] This emphasis on sovereignty was, for the Soviet Union, a means of national self-defense.

This attitude of Soviet leaders toward international control of atomic energy was to result in lack of any concrete accomplishment except for experience (often unheeded) gained by Western negotiators in Soviet negotiation tactics. The Soviets sought to reinforce within the communist world an anti-Western feeling by emphasizing the aggressive intent of the United States while at the same time putting pressure on the United States to publicly renounce use of the bomb. They also sought to justify Soviet proposals in the eyes of uncommitted nations.

It was the nature of Soviet negotiation techniques to present bargaining positions in exactly the same format and content in numerous forums and many times. The liberal use of "jokes" and repeated articulation of demands which were obviously beyond Soviet expectations and which were largely for propaganda value indicate the extent to which the Soviets were negotiating for side effects.[10] The short term tactical objectives of the Soviet Union in the negotiating process for international control of atomic weapons were to prevent the United States government from using its atomic superiority for political advantage and to stall for time until Soviet atomic development would be fruitful. Soviet negotiators also attempted to portray Western bloc policies as aggressive in nature. In order to do this, the Soviet

Union had to continually reject American proposals without appearing to do so.[11]

After the first Soviet atomic detonation in 1949, the need for a revision of attitude or emphasis was clear. The previous attitude toward international control had been successful in that it had indeed rejected Western proposals while identifying the Soviet Union with a "ban-the-bomb" policy. In addition, and most importantly, it had bought enough time to enable the Soviet Union to become a nuclear power. The goal of Soviet propaganda, until approximately 1952, was to continue the portrayal of the United States as an aggressive power while emphasizing the peaceful uses to which the Soviet Union was going to put its new nuclear capability. The object was to instill in the people of the United States a revulsion against atomic weapons while, at the same time, mobilizing technology and industrial resources toward the accumulation of a stockpile of nuclear weapons.[12] From the Soviet explosion of an atomic device in 1949, the passage of time made the idea of international control of atomic energy increasingly obsolete.

D. Disarmament as a Goal, 1953 to 1962

The benefits which accrued to the Soviet Union as a result of its new position as nuclear power were several. The prestige, enhanced military posture and stronger political position went beyond a "good feeling", although this vindication of Soviet science and the feeling of equality, if not superiority, were important. This new status would be of

assistance in fostering a greater degree of European neutralism and would perhaps contribute to greater firepower efficiency in Soviet military forces. But most important was the feeling of increased, if not absolute, security which is so important to the Bolshevik mentality.

By the time of Stalin's death in March 1953, the Revolution was again secure and consolidation of Soviet position in Eastern Europe had progressed to a point where other pressures, internal and external, could surface.

Lenin had held explicitly that the objective of communism should not be international disarmament, but rather the arming of the proletariat for the purpose of disarming and defeating the bourgeoisie. Although Maxim Litvinov, the Soviet Delegate to the Preparatory Commission of the League of Nations Disarmament Conference in 1928, presented a Soviet proposal which startled the world by calling for total disarmament within one year, it is interesting to note what the Sixth Congress of the Communist International had to say in Moscow that same year. It said:[13]

> The aim of the Soviet proposals was not to spread pacifist illusions but to destroy them. Disarmament and the abolition of war are possible only with the fall of capitalism... It goes without saying that not a single Communist thought for a moment that the imperialist world would accept the Communist proposals.

Lenin believed that wars were inevitable as long as capitalism existed since capitalist states would first wage wars among themselves for markets and raw materials, after which they would turn on the threat to their socio-economic

system, the communist state (USSR). "In a system of capitalist powers, negotiated disarmament was impossible; in a communist system, negotiated disarmament was unnecessary."[14]

By 1954, however, G.I. Malenkov, at the time serving as chairman of the council of ministers, introduced a new peace campaign stressing the need for coexistence with the West and sought governmental measures aimed at easing internal economic and social tensions inherited from Stalin's regime. He subsequently lost in the struggle for power to N.S. Khrushchev and was forced to resign in February 1955, taking personal responsibility for the Soviet Union's agricultural problems. However, the signs of internal conflict as affecting the military had begun to surface and the precedent was established. A senior member of the Communist establishment had questioned Lenin's maxim against coexistence with capitalism.

Malenkov stated in 1954 that nuclear war would destroy civilization, an interesting conclusion from a Marxist since it implied that the march of history toward accident could be terminated by accident. Khrushchev later tempered this view with a statement that although socialism would prevail, major centers of civilization would be unnecessarily destroyed.[15] This called for rather subtle revision of Lenin's views and on 15 February 1956, Pravda reported that First Secretary N.S. Khrushchev had stated that:

> There was, of course, the Marxist-Leninist thesis that wars are inevitable as long as imperialism exists... In that period, this thesis was absolutely correct. At the present

> time, however, the situation has changed radically. Now there is a world camp of socialism which has become a mighty force... As long as capitalism survives in the world, reactionary forces representing the interests of capitalist monopolies will continue their drive toward military gambles and aggression and may try to unleash war.[16] But war is not fatalistically inevitable.

Until 1957 and the emergence of Khrushchev as a clear "first among equals" in the party and with the complete power it appears that the call for disarmament, whether sincere or not, was quite general in nature and without significant concrete proposals. Soviet proposals did not call for immediate destruction of nuclear weapons, but concentrated on banning their use and called for an international organization to:[17]

> Establish on the territory of all states control points at large ports, at railway junctions, on main highways and at aerodromes. The task of these posts shall be to see to it that there is no dangerous concentration of land, air or naval forces.

Many believe that this was the first serious attempt on the part of the Soviet Union to negotiate arms control or disarmament agreements. Indeed, it is widely felt that until 1954 to 1955, Soviet arms control/disarmament proposals were insincere and that the Soviets did not recognize until 1953 that disarmament might be even possible or desirable for the Soviet Union.[18] Although the United States often accused the Soviets of wanting disarmament without controls, the Soviets countered with the charge that the West wanted controls without disarmament and that the West was seeking a legalized espionage inside the Soviet Union under the guise of inter-

national inspection. Thus, the Eisenhower "Open Skies" proposal was rejected after it was put forth at the Geneva Summit Conference in July 1955.

The Soviet Union was able to achieve and retain the propaganda lead ahead of the United States as a promoter of disarmament until approximately 1960. The Soviets completed extensive atomic testing in March 1958, and announced a unilateral intention to halt testing while at the same time criticizing the United States and the United Kingdom for not responding favorably to a challenge to them to discontinue their own test program on 1 January 1958.[19] (The United States did subsequently ease testing in August 1958 for a stated period of one year, which lasted into 1961 when the Soviets resumed testing.)

On 18 September 1959, Khrushchev proposed to the United Nations General Assembly a four-year program to arrive at a state of General and Complete Disarmament (GCD).[20] Because of the favorable reception of the plan in the United Nations, the United States could not overtly reject it. A United States counter-proposal was submitted to the Eighteen Nation Disarmament Committee in April 1962. The primary difference between the proposals was that where the Soviets called for elimination of all nuclear delivery means in the early stage, the United States proposed retention of these until the third and final stage to insure compliance.

Despite a lack of success in the disarmament proposal itself, the Soviets did agree to attend a conference in Geneva

from 1 July to 21 August 1958 to examine the development of technical means of detecting nuclear detonations. This would make it possible to monitor any test-ban agreement. In addition, on 1 December 1959, the first post-World-War II arms-control agreement was concluded -- the Antarctic Treaty. This treaty was discussed in Chapter I and was a breakthrough for arms control advocate. Even though the fruition of the Soviet missile program in the launch of Sputnik I in 1957 and the first successful launch of an ICBM caused the West to perceive a relative missile gap, the need for an agreement to limit advancing nuclear weaponry was clear. Climbing Soviet defense expenditures and significant economic and agricultural problems internally conflicted and pointed the need for a solution.

E. Arms Control Negotiations, 1962 to Present

From the end of World War II until 1962, the Soviets tended to dismiss the idea of arms control as an attempt by the West to continue military growth while exacting concessions from the Soviets. As previously mentioned, they often talked of "disarmament" but very seldom "arms control".

Since 1962 and the Cuban Missile Crisis, there has been a significant change in Soviet attitude as reflected in a willingness to not only negotiate in the nuclear weapons arena but to conclude agreements. The extensive developmental program aimed at modernizing all phases of the Soviet military has placed the Soviet Union in a position of near parity, a fact which the recent United States administration seem

to feel is conducive to a serious approach toward arms control by the Soviets.

Chapter I dealt with the wide range of agreements and negotiating processes which have occurred in recent years and it is clear that technical problems revolve around the solution of questions about the actual weapons systems. Differences in tactical and strategic methods results in marked differences in design and purpose of weapon systems. This dissimilarity of weapons systems results in an inability or difficulty of assigning equivalent values to these systems. Formulas must be developed to compare systems based on advantages and disadvantages of each system. Another imposing problem is that of defining which weapons fall in the strategic category, an extremely difficult problem when faced with systems like the Soviet Backfire bomber (with vs. without in-flight refueling) or United States forward-based systems in Europe.

Ideological considerations which argue against a meaningful policy toward arms control include a stated commitment to revolutionary beliefs and a desire for antagonistic confrontation to further the class struggle in international affairs. In the back of the mind of any true Communist lies an affinity for other Communist parties and knowledge that Lenin stated that change comes through violence and revolution and that war is inevitable.

But within the true Communist lies the seeds for a positive approach to arms control -- a belief in the inevit-

ability of history and a confidence in the invincibility of world communism through the historical process of the USSR. Therefore, simply stated, conflicts can be postponed.

Since 1969, there has, in the Soviet view, been a marked change in the correlation of forces on a world wide basis in favor of the Soviet Union. With this has come an increasing US-Soviet arms control dialogue in spite of numerous international and internal events which would have interrupted the process in earlier years. In fact, in the later half of the 1960's, American decisionmakers seemed to be "marking time" -- almost as though they were waiting for the Soviet Union strategic nuclear forces to grow sufficiently serious so that negotiations on the size of nuclear forces could proceed.[21] In fact, the Soviet Union's momentum has carried her to a point where the state of parity is even in question and United States defense and arms control planners often wonder whether the Soviets will be content to settle for a stable balance or attempt to sustain their momentum and seek a strategic superiority which the United States has for all practical purposes renounced.

Indeed, the United States and the Soviet Union are inescapably enmeshed in a process of action and reaction in the dynamic field of strategic armament. What each does is both a response and a stimulus to the conduct of the other. If the SALT talks are serious, they are attempts to manage and regulate this interaction. Given the basic hostility and distrust and the inherent difficulty in controlling the

forces involved, the process necessarily involves a slow groping toward piecemeal measures. The list of arms control agreements since 1962 has shown this to be an accurate evaluation.

Although a treaty in the Antarctic was not considered to be strategically significant, it was perceived as a breakthrough by arms control advocates. The list of ensuing agreements, though piecemeal, is encouraging.

TABLE I

ARMS CONTROL AGREEMENTS FOR WHICH THE NEGOTIATING PROCESS WAS COMPLETED AFTER 1962 CUBAN MISSILE CRISIS

Agreement	Applicable to Strategic Nuclear Weapons?
1963 Hot Line Agreement	No
1963 Partial Test Ban Treaty	Yes
1967 Outer Space Treaty	Yes
1967 Treaty of Tlaleloco	Yes
1968 Non-Proliferation Treaty	Yes
1971 Seabed Arms Control Treaty	Yes
1971 Hotline Modernization Agreement	No
1971 Nuclear Accidents Agreement	Yes
1972 Biological Weapons Convention	No
1972 High Seas Agreement	No
1972 Interim Offensive Arms Agreement	Yes
1972 ABM Treaty	Yes
1973 Protocol to High Seas Agreement	No
1973 Nuclear War Prevention Agreement	No (not directly)
1974 SALT II ABM Protocol	Yes
1974 SALT II Threshold Test Ban Treaty	Yes
1974 SALT II Interim Offensive Arms Agreement	Yes
1976 Treaty on Underground Explosions	No

FOOTNOTES - CHAPTER II

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5. Ibid, pp.8-11.

6. USACDA, Vol.1, p.17.

7. Nogee, p.235.

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CHAPTER III

STATEMENT OF THE PROBLEM

A. Introduction

Whereas Chapters I and II provide a historical overview of the progress in the field of disarmament and arms control, this chapter will be devoted to:

- Developing operational definitions of terms to be used in the objective portion of the study.
- Stating the research problem and summarizing the need for the research effort.
- Providing a cursory historical summary of the development of the independent variable, the *trend of Soviet agricultural development.*

B. Conceptualization of Terms

Disarmament versus arms control - Many writers tend to use the terms "disarmament" and "arms control" interchangeably. Actually, disarmament implies a quantitative or perhaps even a qualitative reduction of the total stocks of existing weapons[1] or military forces usually in response to a minimum established by a specific authority. Arms control, on the other hand, refers to those measures taken, usually on a multilateral basis, to restrain or impede the qualitative and quantitative growth of armaments. With the exception of the SALT II ABM agreement, post-1962 United States-USSR agreements have been arms control agreements when they have dealt with weapons. It can be concluded that arms control measures accomplish either or both of the following:

- establish controls on the arms race and escalating defense expenditures.[2]

- reduce the likelihood and incidence of confrontations at all levels and minimize the damage resulting from a conflict should it occur.[3]

Arms control, as a concept, will be a subject of the quantitative portion of this study.

Strategic nuclear weapons - This term refers to that category of nuclear weapons, possessed primarily by the Soviet Union and the United States, which is designed to strike an enemy at the sources of his military, economic or political power in order to rapidly render him unwilling or incapable of conducting military operations. The application of the definition to various weapons remains a significant problem and is in itself a major point of negotiation. The applicability of the terms "strategic" to a particular system is one of perception of capabilities and intent by both sides. The definition of the Soviet Backfire bomber as a strategic or tactical system depends upon the Soviet ability or intent to provide in-flight refueling capability or their intent to base these aircraft within range of American cities. Strategic nuclear weapons are of central concern to this study but definitional issues will be avoided in that strategic nuclear weapons to be dealt with henceforth are those which have been either bilaterally defined as such or which both parties have generally assumed to be strategic in nature.

Negotiation process - This study will focus on the process by which selected arms control agreements were agreed upon. Negotiation is the process in which two or more parties

put forward explicit proposals for the implicit purpose of reaching an agreement on the realization of a common interest where conflicting interests are present. For negotiation to be present, there must be both common interests and issues of conflict.[4] Governments often enter into negotiating processes for purposes other than those stated - propaganda, to influence world opinion, to stall for time, etc. - and examination of negotiating processes must attempt to eliminate those processes which do not seek an agreement as a goal.

Concessions and retractions - An effective method of examining the negotiating process either completely or in part is by evaluation of the relative value of concessions and retractions made by the parties involved. Concessions are revisions of a negotiating position that bring it closer to the opponent's position.[5] A retraction is defined as the withdrawal or reversal of a previously stated position in a manner which enlarges, rather than reduces, the differences between the negotiating positions of the participants. (It can be noted here for interest that a "compromise" is classified as a way of reaching an agreement through concessions by both sides.)

Negotiations in this study refers to the confrontation, revisions, and final acceptance of explicit proposals at the conference table. Since proposals can be altered or withdrawn until consummation of the agreement, the true mark of sincerity, or the closest we can come to such a conclusion, is acceptance and implementation of the agreement.

Offensive versus Defensive - In the broadest sense, one could associate offense with the ability or attempt to impose one's will on the enemy while defense deals with the prevention or limitation of the enemy's imposition of his will. The problem, like the concept of strategy, is to some extent one of perception. Although the distinction between offensive and defensive weapons has some validity, it provides no useful basis for negotiations unless governments are willing to arrive at common and specific definitions concerning the characteristics of weapons to be permitted, regulated, limited or prohibited. For the purpose of this study, the narrow differentiation between offensive and defensive weapons is not of overriding significance.

C. Thesis Statement

The focus of this study will be an attempt to determine the nature of Soviet commitment to and the motivations behind their participation in arms control negotiations in the post 1962 period. For this purpose, the post 1962 period begins with the negotiating process resulting in the 1963 Partial Test Ban Treaty until the conclusion of the SALT I process of negotiation. Therefore, the inclusive dates are 31 October 1959 through 26 May 1972.

Governments can normally be expected to show interest in arms control to the extent that they are concerned about the posibility of military-technological developments by potential opponents which could impact adversely on their own national security. Governments are, by nature, the most

conservative and cautious of all institutions. Regardless of liberal or revolutionary ideologies within the government, and in spite of defense versus non-defense expenditure debates, when issues of national security are at stake, all government bureaucracies tend to act slowly and warily.[6]

The possible devastating effect of strategic nuclear weapons presupposes the importance of military security issues in arms control dealings and the risks can be great. Cheating on an agreement can potentially place the cheater so far ahead of the opponent -- primarily in a technological fashion -- that redress of an imbalance could be difficult or impossible. The risks that the Soviet Union is willing to take in the direction of arms control are a direct function of the risks which Soviet leaders believe to be inherent in the race for armament superiority.

In fact, the Soviet preoccupation with security has been such that negotiations on arms control in the long run since 1962 would not have had tangible results unless the Soviets had perceived their Revolution to be secure. It is futile, however, to expect a clear cut and consistent picture of the Soviet arms control position at all times. We must remember that the Soviet arms control negotiating positions must be related to other facets of that nation's quest for total security. It should seem evident that there is, therefore, no independent Soviet arms control policy but only what we would call the arms control component of national policy - an organic part of world policy and a reflection of

domestic policy as well.

As early as 1964, Alexander Dallin wrote that the changing Soviet attitude toward arms control was related to arms costs, Third World support for arms control and perceived futility of nuclear war. He stated:[7]

> Besides seeking to avoid counter-effective responses abroad, Soviet leaders are certain to take into account domestic implications of alternative arms policy. It is an axiom that there is an organic interconnection between Soviet domestic foreign and military (and hence arms control) policies. Politically, a positive posture on disarmament is bound to find a resonance and is bound to evoke a measure of support in the Soviet population which the...leadership seeks to nurture and promote. Ideologically, the regime's commitment to build a Communist society in the next generation is widely interpreted among the Soviet population as a promise of rising standards of living. Such a welfare orientation presupposes the maintenance of peace -- a condition equated in wide circles... with the advent of full or partial disarmament. It is in the economy that the internal effects of any disarmament arrangement appear in their most clear cut form.

The allocation of resources is the central decision-making process in the Soviet economy, involving investment questions among alternatives -- civil versus military sectors, heavy versus light industry, present versus future returns and benefits. All phases of the Soviet economy must compete with military expenditures for a share of the scarce resources -- agriculture, housing, capital investment, etc.

Soviet interests in SALT fall into three categories; economic considerations, institutional and bureaucratic considerations, and strategic considerations. Examination and testing of the following hypotheses will, in this author's opinion, bring the Soviet negotiating goals and positions

into focus.

Hypothesis #1

The effect of factors which are external to the military security arena on the evolution of the Soviet arms control negotiating positions as expressed in the trend of concessions and retractions is demonstrable and even predictable as long as the Soviets perceive a near balance to exist.

Hypothesis #2

There is a reasonably strong correlation between events on the international scene which are normally expected to be external to the actual negotiating process in arms control negotiations and the trend of Soviet concessions and retractions in the day-to-day negotiating process.

Hypothesis #3

Domestic factors within the Soviet Union in the post 1962 period exert a demonstrable influence on the formulation and presentation of the Soviet negotiating position in arms control negotiations. Although such factors may be perceived to be external to the process, the influence is such that changes or trends in negotiating positions can be seen and even predicted.

It is clear that the effective testing and supporting of hypotheses #2 and #3 will lead quite logically to an acceptance of hypothesis #1. It must also be noted that hypotheses #2 and #3 can quite easily be further broken down into sub-hypotheses, however, such action could lead to an unmanageable number of component studies, without significant value.

While hypothesis #2 does not lend itself easily to categorization and assignment of priorities in selecting types of international events to study, hypothesis #3 is more approachable and amenable to objective study. Hypothesis #3 is the subject of the remainder of this inquiry.

The Soviet government has good reason for seeking economic and scientific cooperation with the advanced capitalist states. There is a marked contrast between impressive achievements in physics and mathematics, practically demonstrated in their exploits in outer space, and the still-backward technology in several industries and in agriculture. The regime is fully committed to a program of spectacular economic growth, overtaking the United States, building the technical base of the socialist state and raising the level of consumption at home. The success of this program is vital to the strategy of victory without war.[8]

In the economic sector, the benefits to be gained by control of arms races include decreased defense outlays in the short run and a possible relocation of controls on resource allocation -- a trend toward more consumer-oriented production.

It is interesting to note that in July 1963, only eight years after the incident with Malenkov discussed earlier, Khrushchev implied that efforts to pull up weak sectors of the Soviet economy, especially agriculture, were directly linked to efforts to find ways to control military spending. He told a delegation of American farm experts,

"Now we shall reduce expenditures on defense and this money we shall direct to the production of chemical fertilizers".[9] Again, late in 1964, he told a British publisher that he was ready for a summit meeting to ease the burden of military spending.

Few would be naive enough to suggest that, short of catastrophe, problems in the various economic sectors would be the determining factor in Soviet arms control negotiations. The Soviets have endured periods of economic austerity at home as have very few other people. But as pressures and expectations grow, and as generations mature which have not known the deprivation and sufferings of the "Great Patriotic War", it is not unreasonable to expect a reflection of these pressures in arms control negotiations. Indeed, Iklé writes that:[10]

> Western negotiators can seek to determine what chances there are within the opponent's government for a change in instructions. If you are knowledgeable about the internal forces within your opponent's government, you will seek to encourage those forces that favor a revised position more favorable to you.

The forces selected for examination and testing of the hypothesis are the trends in Soviet agricultural development and production. Agriculture has played a significant role in Russian history and, by and large, the Soviet Union is a rural country. A significant portion of the Soviet resources must be placed in the agricultural sector just to insure the survival of the population. The demand for agricultural products is more inelastic than is the demand for the products of other sectors of the economy, especially in an economy where price is not the determinant of resource

allocation. According to D. R. McConnell:[11]

> The elasticity of demand for any product is greater (1) the larger the number of good substitutes available, (2) the larger the item as a part of one's total budget and (3) the more the product is regarded as a luxury item and therefore dispensable.

By this definition and examination of all three points, it is easy to see that while the demand for other products can be postponed, the inelasticity of demand for agricultural products and potential outcome of significant shortage problems pose questions which require much more decisive answers on the part of the Soviet leadership than with any other area of domestic life in the Soviet Union. It is, therefore, the view of this author that the pattern of Soviet agricultural development and production is more likely to produce a recognizable influence on Soviet arms control negotiations, and therefore, it is more likely to result in a meaningful correlation in this study. At this point, a summary of the development of Soviet agricultural policy will prove informative and useful.

D. Agricultural Trends in the Soviet Union

Internal forces within the Soviet Union exert powerful demands which Soviet policymakers cannot escape in their foreign policy choices. The forces generated by the agricultural sector of the economy are among the most powerful.

Moscow's continuing stress on the scientific and technological revolution reflects the painful fact that in

many ways the Soviet Union is a technologically underdeveloped country. This is especially true in the countryside where, for example, the absence of an effective road system virtually paralyzes transportation during part of each year. Additionally, the backwardness of the Soviet countryside can also be seen from the unusually large number of people which is required to produce a sufficient food supply. In the United States, just over 3.5 million people (under 4 percent of the labor force) more than meet domestic needs while the 26.5 million collective and state farmers (24 percent of the Soviet work force) achieve their planned goals in an erratic manner. This performance disparity is largely the result of the vastly greater productivity of the American farmer, a product of the far higher level of mechanization of United States agriculture, more sophisticated use of fertilizers and irrigation and a much more effective system of economic incentives.

The development of Soviet agricultural policy has been a painful exercise for Soviet planners. In the civil war years, the difficulty of balancing production needs and incentives with ideological desires was dealt with by Lenin in the institution of the New Economic Policy in 1921. This provided for a tax in place of compulsory requisitioning of agricultural products and peasants were free to dispose of their produce as they pleased after fulfilling their obligations to the state. The ideological implications of this policy were very troubling to the Party which had been

taught that the Kulak was the prime enemy in the countryside and that nationalization of the land was the first step necessary to the spread of large-scale socialist agriculture. The strategic retreat effected by Lenin was, of course, a temporary measure designed to save the Revolution and prevent or delay mass starvation while the process of industrialization was being emphasized. After all, Marx had dealt with proletariat in an industrialized society, a far cry from rural Russia with large peasant masses.

In order to elicit effectively increasing production from the countryside, and in the semi-capitalist environment in which the Kulak land holders were being permitted to exist, there had to be a sufficient quantity of reasonably priced consumer goods available for purchase. Failure to provide such goods would result in curtailment of production, increased consumption by farmers, and hoarding of accumulated surpluses by the agricultural sector.

The decision of the Bolsheviks to embark immediately upon a program of rapid industrialization and expansion of heavy industry meant that consumer goods would be scarce and expensive. Simultaneously, it was increasingly necessary that an abundant supply of grain be made available at low prices to feed an expanding industrial work force and as an export commodity to pay for needed industrial imports.

Eventually it became evident to Soviet leadership that the NEP had outlived its usefulness and viability and that a return to compulsory requisitions would be necessary.

In 1929, Stalin launched his campaign to eliminate the Kulak as a class and the process of collectivization of agricultural resources into two large-scale production units began in earnest -- the sovkhoz or state farm and the kolkhoz or collective farm.

Initial peasant opposition brought on even more intense pressure in the move toward collectivization.[12] While inadequate planning and management problems took a large toll on the resources, and it took nearly a decade to recover from the loss of livestock slaughtered by peasants, by 1933 the harvests were registering yearly gains. In addition, a substantial portion of the rural population had migrated to the cities where they would help fill the ranks of the proletariat. In spite of the great loss in terms of human suffering and actual agricultural resources, by 1940 approximately 96.9 per cent of all peasant households had been collectivized,[13] greatly simplifying the government's task of collecting the requisitioned agricultural commodities. Although the total output in the early years of collectivization was lower than in previous years, it was more manageable from the government's viewpoint and was more beneficial to the developing socialist society as a whole.

The World War II years, as would be expected, greatly disrupted agricultural production and organization, and the early post-war years were, in large part, devoted to the streamlining of organization of the collective farms, elimination of unnecessary bureaucrats and a strengthening of

discipline in the collective farms (kolkhoz) especially in the fulfillment of the organization's obligation to the state.

By 1950, N. S. Khrushchev, himself of rural origin, had become that member of the Politburo who was to be responsible for agriculture, and the Politburo's agricultural spokesman. The campaign to consolidate further the collective farms was articulated by Khrushchev as a measure to achieve greater efficiency and increase production -- goals which were not achieved in the short run. But the obvious, unstated goal was accomplished -- that of achieving greater Party control over the farms. The goal which was most desired, however, was not achieved to any great degree in the Stalin years. Production did not increase significantly and Soviet agriculture remained backward and stagnant as indicated in the two accompanying tables:

TABLE I

TOTAL LIVESTOCK IN USSR (in millions)[14]

Year	Cattle	Hogs	Sheep and Goats	Horses
1916	58.4	23.0	96.3	38.2
1928	66.8	27.7	114.6	36.1
1941	54.5	27.5	91.6	21.0
1950	58.1	22.2	93.6	12.7
1951	57.1	24.4	99.0	13.8
1952	58.8	27.1	107.6	14.7
1953	56.6	28.5	109.9	15.3

TABLE II

GROSS PHYSICAL OUTPUT OF SELECTED

FOOD ITEMS (million tons)[15]

Year	Grain	Potatoes	Vegetables	Milk	Meat	Eggs (Billions)
1940	83.0	75.9	13.7	33.6	4.69	12.2
1950	81.4	88.6	9.3	33.3	4.86	11.7
1951	78.9	59.6	9.0	36.1	4.67	13.3
1952	92.0	68.4	11.0	35.7	5.17	14.4
1953	82.5	72.6	11.4	36.5	5.82	16.1

During the Stalin years the failures of Soviet agriculture were, of course, embarrassing, but tolerable. The goal of Soviet society was rapid industrialization and reinvestment of the product of society, above that needed for subsistence, back into the system in the form of capital investment. In other words, the Soviet planners (Stalin) had made the decision that the society would forgo the immediate benefit of increased production for the long term benefit of continued rapid development. People were viewed as an expendable commodity and, that being the case, the demand for agricultural products by the government was much more elastic (capable of being postponed, delayed or ignored) than it was to become in later years.

Under Khrushchev, the agricultural sector of the Soviet economy received a great deal of attention in the form of increased incentives for production in the form of higher procurement prices, a major investment of resources, and the establishment of a system of schools for the training of a

large number of technicians who would assist in the mechanization of Soviet agriculture. Agricultural specialists were redirected from office jobs into more production-oriented assignments.

Khrushchev's "Virgin Lands Program" sought to utilize up to 150,000 workers and technicians and massive amounts of equipment in marginal land areas in a zone of generally unfavorable climatic conditions to increase the grain output of Soviet agriculture. The results were erratic. At best, Khrushchev justified the resource expenditure by stating that on the average and in the long run the benefits would greatly outweigh disadvantages.

Other programs which emerged during the Khrushchev years illustrate or emphasize the growing importance of Soviet agriculture. The growing importance of corn as a silage crop and the accompanying growth in importance of meat products in Soviet diet are important. Organizational changes such as dissolution of the Machine Tractor Stations (MTS) as repositories of farm machinery and the sale of that machinery to the collective farms are indicative of the emphasis placed upon agriculture.

This massive redirection of resources and attention toward agriculture was, of course, not without costs. Resources which must be utilized in consumer goods industries and in agricultural activities are not available for heavy industry and military production. The shift of Khrushchev's attention in military matters in the direction of acquisition

of a credible strategic nuclear force in the 1960's and the simultaneous and continuing Soviet willingness to participate in arms control negotiations since 1962 may, in part, reflect domestic pressures within the Soviet Union. Increased willingness on the part of Soviet leaders to deal with these domestic pressures is evident.

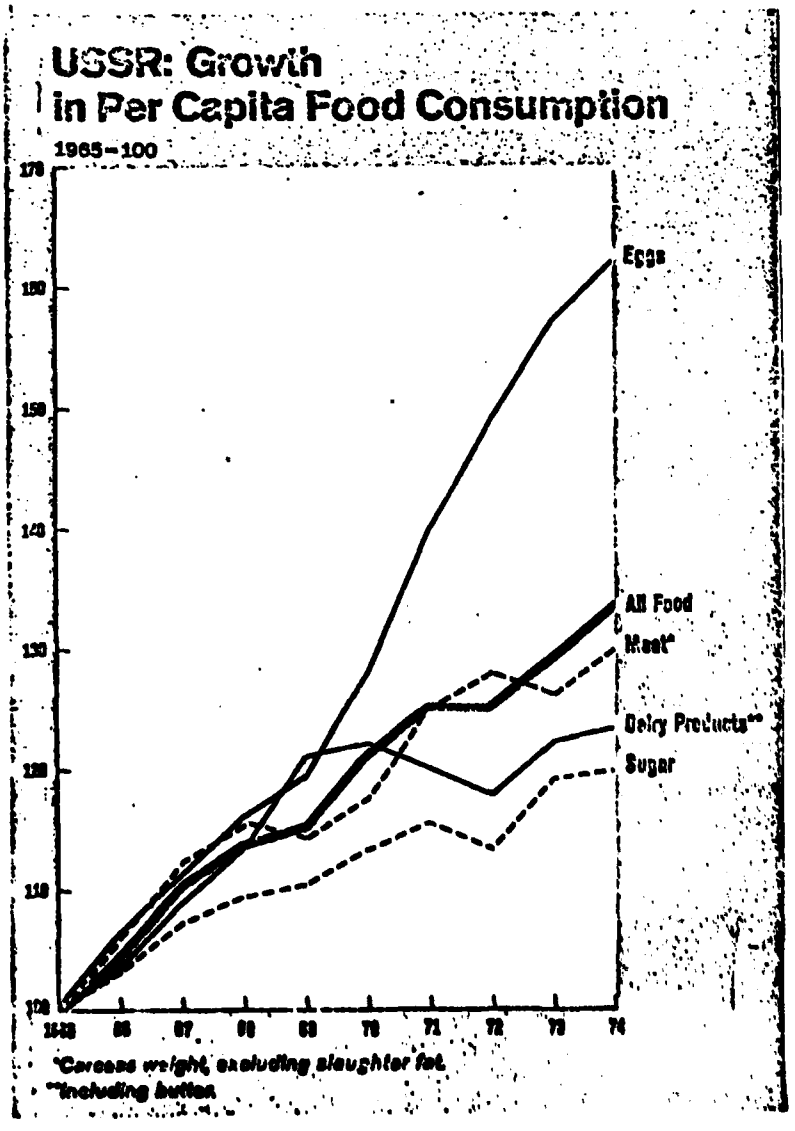
The removal of Khrushchev from power in the Soviet Union is generally acknowledged to have been a result of a loss of confidence in him by ideological, military and economic leadership in the CPSU -- ideological leaders for his adventurism, military leaders for his acceptance of "mutual assured destruction" posture vis-a-vis the United States and the economic leadership for his mismanagement of agricultural programs.

Under Brezhnev, investment in agriculture has continued to grow and per capita consumption of higher quality goods has risen markedly.

Given the premise that the expendability of people has decreased significantly since Stalin's death, the elasticity of demand for agricultural commodities has decreased at an accelerating rate, as Soviet citizens have become more accustomed to a higher quality of diet. See accompanying Table III.

TABLE III

USSR: GROWTH IN PER CAPITA FOOD CONSUMPTION[16]



While it is beyond the scope of this study to deal extensively with statistical data on agricultural production and consumption, the intent has been to show that agricultural backwardness plus Soviet policy have, since the revolution, combined to present significant problems for Soviet leaders. In the early years after the revolution, more pressing developmental and security problems pushed agricultural problems to the background and mere subsistence was considered to be sufficient. In the modern world, the fact that Soviet agriculture plays such a disproportionately large role in the economic picture (25% of GNP)[17] and that that sector is at the same time the weakest of the economic sectors, is of great concern to Soviet leaders. Lack of agricultural self-sufficiency affects the ability of the leadership of the Party to meet the growing needs of the people. Because of an instability of production and dependence on imports, national security is also affected (in a similar manner, perhaps, to the United States' dependence upon the Organization of Petroleum Exporting Countries).

Production and developmental trends in Soviet agriculture will be the independent variable in this study; and an attempt will be made to ascertain the degree of relationship which exists between that trend and Soviet arms control negotiating positions.

FOOTNOTES - CHAPTER III

1. James Dougherty, How to Think About Arms Control and Disarmament (New York: Crane, Russak and Co., 1973) p.22.

2. Ibid, p.29.

3. Thomas Schelling and Morton Halperin, Strategy and Arms Control (New York: 20th Century Fund, 1961) p.6.

4. Fred C. Iklé, How Nations Negotiate (New York: Harper and Row, 1964) p.3.

5. Iklé, p.105.

6. Dougherty, p.50.

7. Alexander Dallin, The Soviet Union, Arms Control, and Disarmament; A Study of Soviet Attitudes (New York: Columbia University, 1964) p.23.

8. Dallin, p.65.

9. Erik P. Hoffman, ed., The Conduct of Soviet Foreign Policy (Chicago: Aldine Atherton, Inc., 1971) p.85.

10. Iklé, p.125.

11. Campbell R. McConnell, Economics, 6th Ed. (New York: McGraw-Hill, 1975) p.468.

12. Merle Fainsod, How Russia is Ruled (Revised Edition, Cambridge: Harvard Univ. Press, 1967) p.530.

13. Ibid, p.531.

14. Ibid, p.541.

15. Ibid.

16. Allocation of Resources in the Soviet Union and China - 1975, Hearings before the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee, Congress of the United States, Part I., (Washington, D.C.: USGPO, 1975) p.13.

17. Morton Schwartz, The Foreign Policy of the USSR: Domestic Factors (Encino, CA: Dickenson Publishing Co., 1975) p.33.

CHAPTER IV

RESEARCH METHODOLOGY

A. Introduction

After having stated the research problem and the hypothesis with which this study deals, this chapter describes the methods by which a systematic collection and arrangement of data will be accomplished.

B. Tasks To Be Performed

To refresh the reader's memory and to more easily determine those tasks which must be performed in development of a methodology, a restatement of the actual hypothesis to be tested will be of value. Hypothesis #3 says that domestic factors within the Soviet Union in the post-1962 time period exert a demonstrable influence on the formulation and presentation of the Soviet negotiating position in arms control negotiations. Although such factors may be perceived to be external to the process, the influence is such that changes or trends in negotiating positions can be seen and even predicted. The reader will further remember that in the study to be conducted, the trend of negotiations by Soviet negotiators will be the dependent variable upon which the effect of the independent variable will be measured. That independent variable (domestic factor) will be the trend of Soviet agricultural events.

Task #1

This task consists of determining the criteria by which the negotiating processes to be examined will be selected. This will be done within the definitional and conceptual outlines presented in Chapter 3.

Task #2

This task consists of the actual selection of arms control agreements using the criteria established in Task #1.

Task #3

This task includes determination of procedures by which agricultural events will be compiled and placed in chronological order within the time frame covered by negotiation processes selected in Task #1.

Task #4

This task consists of the outlining the procedures for analysis of the data, tests to be performed and the methods by which conclusions will be drawn.

C. Criteria and Selection of Arms Control Agreements

Three criteria will be utilized to select negotiation processes to be researched. It must be noted that the criteria are identical to those used by Major Robert Helms in his Kansas University doctoral dissertation.[1] Those criteria demand that the agreements be a) those which were concluded after the Cuban Missile Crisis in 1962, b) those which actually became effective and in force for both nations and c) those which are applicable to strategic nuclear weapons.

It was not until after the 1962 Cuban Missile Crisis that actual progress in the negotiating process was made and the first agreement meeting the criteria was completed - the 1963 Partial Test Ban Treaty. In addition, Fred Iklé points out that the negotiating process is not actually complete until the agreement is reached. Until that time, the actual motives or goals of negotiators is open to question and attempts to categorize concessions and retractions could prove misleading.[2]

The importance of strategic nuclear weapons as a determinant of selection criteria is reflected in the fact that the central focus of post-1962 arms control agreements has centered around this factor. The ability of strategic nuclear weapons' quantity and quality to exert short run impact on national security is perceived by both the United States and the Soviet Union to be greater than any other security issue.

The arms control agreements which satisfy the criteria established for inclusion in this study and the periods of negotiation processes are:

a) 1963 Partial Test Ban Treaty - 31 OCT 58 - 25 JUL 63

b) 1967 Outer Space Treaty - 1 APR 60 - 8 DEC 66

c) 1968 Non-Proliferation Treaty - 21 JAN 64 - 11 MAR 68

d) 1971 Seabed Arms Control Treaty - 18 MAR 69 - 7 DEC 70

e) 1971 Nuclear Accidents Treaty - 17 NOV 69 - 26 MAY 72

f) 1972 Interim Offensive Arms Agreement - 17 NOV 69 - 26 MAY 72

g) 1972 ABM Treaty - 17 NOV 69 - 26 MAY 72

h) 1974 SALT II ABM Protocol

The 1971 Nuclear Accidents Treaty, the 1972 Interim Offensive Arms Agreement and the 1972 ABM Treaty were conducted under the SALT I process and will be considered as such. Additionally, the 1974 SALT II ABM Protocol was concluded by mutual agreement of the United States and the Soviet Union and was signed without detailed negotiations. It will, therefore, not be researched in this study.

The period to be covered in this study will commence with the month of October 1958, the month in which the formal negotiating process began which later produced the Partial Test Ban Treaty. The study will span the 164 consecutive monthly periods to and including the month of May 1972. On 26 May 1972, the SALT I negotiating process was concluded with the signing of the ABM Treaty and the Interim Offensive Arms Agreement in Moscow.

To summarize, the arms control agreements selected for research are:

1963 Partial Test Ban Treaty
1967 Outer Space Treaty
1968 Non-Proliferation Treaty
1971 Seabed Arms Control Treaty
1972 SALT I

The conduct of the study requires a systematic examination of each negotiating process by means of official documents, testimony and other authoritative sources. Extraction of the concessions and retractions made by the Soviet Union during each of these processes is presented at Appendix I.

Within Appendix I, the reader will find a hierarchy of relative coded values at Table I which is applied to events listed in Tables II through VI. Table VII refers the reader to appropriate source documents for additional information. The events are presented in chronological order by negotiating process; and the processes are integrated in order to achieve a true chronological order for testing.

D. Selection of Agricultural Events to be Considered

As stated in Chapter III and earlier in this chapter, the independent variable in the study will be the trend of events in the agricultural sector of Soviet economy and society. Events will be gathered to include the entire fifteen-year period from 1958 through 1972 since the inclusion of events for several months before and several months after the period of study will assist the reader in obtaining a contextual view of events. As with the dependent variable, the actual time span of the study will include the 164 consecutive monthly periods between October 1958 and May 1972. Data pertaining to the independent variable alone will be presented at Appendix II.

The relative coded value of events is found at Table I and this hierarchy of values is applied to events listed in Table II to achieve values ranging from 1 through 10.

It must be noted here that selection of events to be included in Appendix II was accomplished after conducting a survey of periodical publications. The source materials

chosen were a) The New York Times, b) The Christian Science Monitor and c) Facts on File. These publications showed the greatest consistency over the time frame of the study in terms of type of events reported, emphasis and timeliness. For the most part, these sources corroborated one another and portray the same trends.

Other sources were consulted for background information or elaboration such as Current Digest of the Soviet Press. Additionally, Soviet publications were examined to provide the author with clarification of some points of interest. On the average, and in the long run, these additional sources failed to provide data of the necessary type and scope.

E. Test To Be Conducted

The data which is presented in Appendices I and II is summarized in Appendix III, Table I in the form of six variables. Those variables will be compared over time (period) by use of Statistical Package For the Social Sciences (SPSS)[3]. This computer program designates the six key variables as follows:

a) HINEG - the high negotiation value in a time period.

b) AVNEG - the average negotiation value in a time period.

c) NEGEVENT - the number of negotiations events in a time period.

d) HIAG - the high agriculture value in a time period.

e) AVAG - the average agriculture value in a time period.

f) AGEVENT - the number of agriculture events in a time period.

The purpose of the study is to determine the relationship of the intensity of agricultural events to the intensity of the negotiation process. The absolute value of coded values will, therefore, be used.

The text to be performed will include the determination of Pearson Correlation Coefficients to determine the strength of relationships as well as the R^2 value to demonstrate the amount of variation in the dependent variable which is explained by the independent variable.

The two primary tests to be conducted are:

Test #1 - An analysis of variable AVNEG with AVAG as independent variable.

Test #2 - An analysis of variable AVNEG with HIAG as independent variable.

The determination of the effect of agriculture on the <u>average</u> negotiation position is more likely to be fruitful as well as useful. However, secondary tests #3 and #4 examine effects which are of interest.

Test #3 - An analysis of HINEG with AVAG as independent variable.

Test #4 - An analysis of HINEG with HIAG as independent variable.

Additionally, two tests will conduct an analysis to compare the strengths of the variable relationships in the Khrushchev years with those of the Brezhnev years.

Test #5 - An analysis of the results of variable AVNEG with AVAG correlation comparison between Khrushchev

years and post-Khrushchev (Brezhnev) years.

Test #6 - An analysis of the results of variable AVNEG with HIAG correlation comparison between Khrushchev years and Brezhnev years.

Detailed statistical data as provided by SPSS program is provided at Appendix III and analysis follows in the concluding chapter.

FOOTNOTES - CHAPTER IV

1. Robert F. Helms,II, A Study of US-USSR Post 1962 Arms Control Negotiations
(Lawrence, KS: University Of Kansas, 1978) p.50.

2. Fred C. Iklé, How Nations Negotiate
(New York: Harper and Row, 1964) p.193.

3. Norman H. Nie, Statistical Package For the Social Sciences
(2nd Edition, New York: McGraw-Hill Book Co., 1975)
This volume presents programming instructions for SPSS, one of the most widely used computer programs for social science research.

CHAPTER V

RESEARCH SUMMARY

A. Data Summary

The strategies available in the SPSS system for the study of this type of relationship are a) correlational analysis and b) cross-tabulation analysis. The statistical data which results from cross-tabulation analysis is not to be considered in this analysis.

Correlational analysis is the research strategy which will be used to examine the variable relationships in this study. In this strategy, a large number of cases are examined and the variables are measured (Appendix I and II). The SPSS program in Appendix III uses correlational analysis in the form of "Pearson's r" or the coefficient of the correlation which ranges from -1 to +1 indicating the strength and direction of the relationship between the variables.[1] It can also be said that the "r" value indicates the degree to which a regression line resulting from the analysis actually describes the relationship, assuming that the relationship is, in fact, linear in nature.

The value "r^2" (r-square) is used to estimate the error of the correlational analysis and the r^2 value ranges from 0 to 1. The purpose of r^2 is to describe the amount of unexplained variation which exists in the explanation of dependent variable variation by the corresponding variation of

the independent variable. When the unexplained portion of dependent variable variation is equal to zero (0), then the regression equation eliminates all errors in predicting the dependent and the value of r^2 then equals 1.[2] In other words, r^2 statistic shows that the independent variable provides _____% of the explanation of the dependent variable.

The reader must remember when reviewing the results of the various tests that the purpose here is to determine or demonstrate a relationship in variable fluctuation and the strength of that relationship. Although the slope and intercept of the regression are interesting, they are of secondary importance here.

B. Use of Data to Test Hypothesis

The summary of data resulting from the tests is provided in this section and will be discussed following that presentation. A review of the meaning of variable names as presented in Chapter IV, Research Methodology, will assist the reader in his understanding of this section and is strongly recommended.

The results of the correlational analysis are as follows:

Test #1 - Compares AVNEG dependent variable and AVAG as independent variable. $r=.0453$; $r^2=.0021$.

Test #2 - Compares AVNEG with HIAG in the same manner as in Test #1. $r= -.1135$; $r^2=.0129$.

Test #3 - Compares HINEG as dependent variable with AVAG as independent variable. $r=.1307$; $r^2=.0171$.

Test #4 - Compares HINEG as dependent variable with HIAG as independent variable. $r = -.0365$; $r^2 = .0013$.

Tests numbers 5 and 6 examine the same variable relationships as in Test 1 and 2 respectively; however, a comparison is made between the relationships which exist when applied to data pertaining to the Khrushchev years (October 1958 to October 1964) and the data which pertains to the post-Khrushchev years which are within the time frame of this study (November 1964 through May 1972). Of course, the preponderance of the post-Khrushchev policies in both agriculture and arms control negotiations are in many respects more applicable to the present day since they are predominantly the policies of First Secretary Brezhnev.

Therefore, test results of the correlational analysis by comparison of leadership policies are as follows:

Test #5 - Compares AVNEG as dependent variable with AVAG as independent variable:

Khrushchev years - $r = -.0042$; $r^2 = .0000$.
Post-Khrushchev years - $r = -.2720$; $r^2 = .0740$.

Test #6 - Compares AVNEG as dependent variable with HIAG as independent variable:

Khrushchev years - $r = -.0824$; $r^2 = .0068$.
Post-Khrushchev years - $r = -.3339$; $r^2 = .1115$.

The complete data surrounding these tests is, of course, provided at Appendix III to include scattergrams. However, before describing the conclusions which the author had drawn from the data, it would be in order to point out certain noteworthy facts.

In the first place, although it was almost assumed by the author that the strongest of the relationships between variables in Tests #1 through #4 would be the relationship between the average negotiating value and the average agriculture value, this was not the case. Clearly, the strongest correlation exists between the High Negotiation Value (HINEG) and Average Agriculture Value (AVAG) or Test #3. This test also resulted in, by far, the strongest r^2 value.

The test of the first four which displayed the second strongest results of independent variable impact on the dependent variable was the relation of Average Negotiation Value (AVNEG) with High Agriculture Value (HIAG). Although the correlation was inverse (-.1135) it was the second strongest and represented the second highest r^2 value.

Also of interest is the fact that Test #5 and #6 showed agriculture event strengths to impact inversely on the strengths of negotiation event strengths in both Khrushchev and post-Khrushchev periods. The greatest impact of agriculture in each case was exerted during post-Khrushchev years although the relationship is an inverse one. In fact, in the post-Khrushchev era to May 1972, or the signing of the SALT I accords, the correlation between Average Negotiating Value (AVNEG) and High Agriculture Value (HIAG) is $r = -.3339$ with an r^2 value of .1115. This is the most significant correlation in terms of independent variable impact and the strongest r^2 value.

C. Conclusions

It was previously stated that the conduct of sensitivity analysis is beyond the scope of this study. Although spurious relationships and the existence of unidentified intervening variables may affect the statistical results of the study, the reader must remember that the study's value lies in its attempt to develop a methodology for continued examination of related questions. The relative values of the Pearson's correlation points out the type of values most likely to produce useful results.

Prior to the conduct of the correlational analysis, the author's intuitive opinion was that the relationship between monthly average negotiation value and monthly average value of agricultural events would be the strongest value. Instead, the strongest relationship was demonstrated by the impact of the average agricultural value on the high negotiation value. This would tend to indicate that over the time span of the investigation, the actual trend of events in the agricultural sector of the Soviet economy did, in fact, exert an influence, albeit a weak influence, on the process of arms control negotiations. Therefore, in testing the aggregate data, Test #3 is of the greatest value.

However, the interesting results of Tests #5 and #6 would seem to indicate that the critical time for the study of the impact of the agricultural sector on arms control negotiations begins with the post-Khrushchev period.

In fact, the Pearson's "r" for the impact of variable HIAG on variable AVNEG can be construed to imply that in the Brezhnev period the leadership was more sensitive to the adverse publicity within Soviet society than previously as would be indicated by the average negotiation value variable's greater responsiveness to the high agricultural value than to the average agricultural value. At the risk of making a mirror-image evaluation of Soviet leadership based on United States perspectives, the author will tentatively conclude from this that, in addition to an expected administration response to the economic impact of supply-demand equilibrium for agricultural products, the Brezhnev administration in its conduct of arms control negotiations has been or may be more sensitive to its perceptions of Soviet public opinion with respect to certain sensitive issues. For the Soviet Union, agriculture has certainly been a sensitive issue.

D. Implications for Future Study

Admittedly, conclusions which are derived in this study must be tentative in nature. The true value of the study lies in the potential avenues for further exploration and investigation which have been demonstrated.

Future studies of factors affecting the negotiating process may use a great variety of independent variables to include domestic Soviet issues, as in the current study, or international issues affecting the Soviet Union such as relations with the People's Republic of China (PRC), Soviet

relations in Eastern Europe, and other such issues.

Theoretically, if one were able to correctly evaluate each factor which exerts an influence on the arms control negotiating process, the aggregate Pearson's correlation coefficient would equal 1 and the r^2 value would also equal 1. While the achievement of this total picture in such a complicated world where research techniques are admittedly imperfect is unlikely, the theoretical possibility is interesting.

The results of Tests #5 and #6 point out to this author that in the conduct of future studies, it may be the case that the methodology is more applicable to the post-Khrushchev era. Possibly, future studies should begin with October 1964 and continue through the date of the signing of SALT II agreement if such agreement comes to fruition and if the events of the negotiating process become available. Admittedly, the number of monthly periods when no negotiation event occurred may have skewed the results to some degree.

One of the tentative conclusions refers to the Brezhnev administration's relatively greater responsiveness to perceived public opinion, however weak that responsiveness or the articulation of it may be. If this has any basis in fact, the value of the methodology will be increased for future investigators by virtue of the fact that the independent variable is derived primarily from news media and other easily accessible sources.

Sensitivity analysis between the dependent and inde-

pendent variables for a time lag of three to six months is recommended as a possible next step in any future study of the subject material.

This study is presented with the hope that this first will be but one of several. The field is a broad one and the steady accumulation of data can only increase the reliability of the results of further study. Any degree of insight which can be gained in the interesting and important study of arms control negotiations can serve to benefit formulation of United States negotiating strategy while adding to the general body of knowledge.

FOOTNOTES - CHAPTER V

1. David Nachmias, Research Methods in the Social Sciences (New York: St. Martin's Press, 1976) p.215.

2. Ibid.

APPENDIX I

Tabular Evaluation of Soviet Negotiating Position

APPENDIX I - TABLE I

INDEX OF RELATIVE CODED VALUES

Criteria	Coded Value
a) Reversal of official policy or principle of substance that has been officially stated as a basis for conducting negotiations. b) Elimination of in-being, operational, strategic nuclear systems that have not previously been identified for phasing out of the active force inventory.	Extremely Important Value 9-10
a) Provision to one of the participants a numerical advantage in a particular type of strategic nuclear weapon system as well as the counting of older nuclear delivery systems on the same basis as the most modern nuclear delivery systems deployed. b) Placement of a qualitative limitation on the modernization of a strategic nuclear weapons system. c) Establishment of a numerical sublimit for an existing nuclear weapons system.	Very Important Value 7-8
a) An official statement that reflects a moderating or accomodating gesture toward the other nation. b) Agreement to require verification with acceptable means, but not on-site inspections. c) Acceptance of a procedural or organizational issue that has a definite effect on the results achieved in a treaty.	Important Value 5-6
a) Changing of a previous position in real terms numerically but which does not alter the	Less Important Value 3-4

APPENDIX I - TABLE I--Continued

Criteria	Coded Value
numerical relationship that previously existed. b) Settlement of a procedural or organizational issue that has some, but only a limited effect on the results achieved in the treaty.	
a) An action which normally would be assigned a higher value, but which contains a "joker" such as requirement for elimination of forward-based systems. b) A procedural or organizational issue that does not have any real effect on the negotiating process or implementation of the treaty.	Relatively Unimportant Value 1-2

APPENDIX I - TABLE II

SOVIET CONCESSIONS AND RETRACTIONS MADE DURING PARTIAL TEST BAN TREATY NEGOTIATION

Event #	Action	Coded Value	Date
1	In a reversal of previous policy, the USSR offered to pursue efforts to conclude a nuclear test ban treaty separate from other disarmament measures.	10	12/7/55
2	USSR offered to agree to the immediate cessation of all nuclear weapon tests as an accomodating gesture.	6	6/14/57
3	USSR reversed previous position for on-site inspection and agreed to accept control posts in the USSR to supervise a test ban, subject to the acceptance of such posts by the US and UK on the basis of reciprocity.	10	6/14/57
4	In an accomodating gesture, the USSR unilaterally discontinued nuclear weapons tests.	6	3/31/58
5	In a procedural compromise with definite effect on the results to be achieved in the treaty, USSR agreed to participate in a meeting of experts to study procedures for detecting test ban violations.	6	5/9/58
6	As an organisational concessions with only limited effect, USSR agreed to describe the details of the Control System in an annex to the treaty.	3.7	11/29/58
7	USSR agreed that control officers from both sides (East-West) could	3.3	12/8/58

APPENDIX I - TABLE II--Continued

Event #	Action	Coded Value	Date
	accompany inspection teams, but only as observers without operational functions as a concession with limited effect.		
8	USSR agreed to accept seven as the number of nations to make up the Control Commission, providing that the three founding states (US,UK,and USSR) possess veto power.	2	12/8/58
9	In an organizational concession of limited effect, USSR agreed to a single administrator for the Control Commission.	3	12/12/58
10	USSR agreed that decisions of the Control Commission be made by simple majority, except on issues of substance which required unanimity.	1.7	12/15/58
11	USSR offered an organizational concession of limited effect by agreeing to increase the number of controllers at each inspection post from one or two to four or five, but with only observer--not operational--function.	3	1/26/59
12	USSR agreed to delete the unanimity requirement for treaty revision as a procedural concession of definite effect.	5	4/14/59
13	In a procedural concession with definite effect, USSR agreed to permit control officers from both sides (East-West)-- see Event #7-- accompanying inspection teams to perform routine operational duties.	5.3	4/15/59
14	USSR offered to agree to raise the number of controllers at each	3	6/22/59

APPENDIX I - TABLE II--Continued

Event #	Action	Coded Value	Date
	inspection post from four or five to six or seven as a concession with limited effect.		
15	USSR agreed to delete the unanimity requirement for making accusations against a State in a procedural concession with limited effect.	3	6/30/59
16	USSR offered to agree to an equal quota for on-site inspections--a procedural concession with definite effect--represents a qualified acceptance of some form of on-site inspection.	5.7	7/9/59
17	USSR agreed to remove the unanimity requirement for dispatching inspection teams, if the US would accept equal inspection quotas in a concession of limited effect.	4	7/9/59
18	USSR offered to delete the unanimity requirement for determining the location of control posts, if the US would agree that locations should be determined in agreement with the interested parties.	4	7/16/59
19	USSR offered to delete the unanimity requirement for designating special flights route if the US agreed to establish permanent flight routes in a concession of limited effect.	4	7/16/59
20	USSR agreed to delete the unanimity requirement for budgetary matters providing that the US accept the Soviet 3:3:1 proposal for composition of the Control Commission in an unimportant concession.	2	12/14/59

APPENDIX I - TABLE II--Continued

Event #	Action	Coded Value	Date
21	USSR agreed to accept the US 3:2:2 proposal for composition of the Control Commission, providing the US accepted three non-committed states instead of two and relinquish its veto on budgetary matters in an unimportant concession.	1	12/14/59
22	In a concession of limited effect, USSR agreed that the Party determining a flight route to be unacceptable would be required to provide an acceptable alternative.	3	1/26/60
23	USSR agreed to discuss the question of privileges and immunities for members of the Control Commission--a concession with limited effect.	3	2/8/60
24	USSR retracted the offer to discuss an equal quota of on-site inspections until the US agreed, in principle, to a comprehensive test ban--a procedural retraction with a definite effect on the results to be achieved in the treaty.	5.7	2/19/60
25	In a procedural concession of limited effect, USSR agreed that joint research to improve detection procedures could begin as soon as the treaty was signed.	3	2/26/60
26	In a reversal of previous policy USSR agreed to pursue a phased approach toward a comprehensive test ban.	9	3/19/60
27	USSR agreed to a procedural issue with limited effect by concurring with the US proposal for talks	3	4/14/60

APPENDIX I - TABLE II--Continued

Event #	Action	Coded Value	Date
	among scientific personnel to formulate a research program.		
28	On a procedural issue with definite effect, USSR agreed to conduct joint underground nuclear explosions as part of a joint research program.	5.3	5/3/60
29	USSR agreed to a testing moratorium for detonations below the 4.75 seismic scale, providing that the US agreed to establish the moratorium period as four to five years in a concession of definite effect.	5.3	5/3/60
30	USSR offered to agree to equal East-West staffing for on-site inspection groups, providing that the chief of the inspection team be from the nation being inspected--limited effect.	2.7	6/20/60
31	In a concession with definite effect, USSR agreed that members of the Control Commission be granted diplomatic immunity.	5.3	6/22/60
32	USSR agreed, as an organizational compromise with definite effect, that the Control Commission should have five deputies. The first deputy could be chosen by the Control Commission with the concurrence of the USSR, US and UK. Two would be selected from the USSR and two from the US and/or UK.	5	7/5/60
33	USSR retracted agreement in the selection process of the deputies for the Control Commission and proposed that each of the	5	7/15/60

APPENDIX I - TABLE II--Continued

Event #	Action	Coded Value	Date
	five deputies be appointed by the Control Commission, subject to the approval of the USSR, US, and UK--a definite effect.		
34	USSR offered to agree to three annual on-site inspections as a concession with definite effect.	5.3	7/26/60
35	USSR retracted agreement on the US 3:2:2 proposal for composition of the Control Commission.	1	8/11/60
36	USSR agreed to a procedural concession of limited effect in concurring with six years as the timetable for installing the detection and control system.	3	8/11/60
37	USSR retracted agreement that the Control Commission be headed by a single administrator in demanding that a "Troika" consisting of 1-US, 1-USSR and 1-neutral head the commission--a retraction with definite effect.	5.7	3/21/61
38	In a reversal of policy, retracted the unilateral agreement to cease nuclear weapon testing.	10	8/30/61
39	In a reversal of policy, USSR retracted agreement to pursue nuclear test ban negotiations as a separate agenda item in East-West negotiations.	9.7	9/9/61
40	USSR agreed to reverse policy and resume nuclear test ban negotiations.	9.7	10/11/61
41	USSR offered to agree to negotiate a limited test ban treaty	6	10/28/61

APPENDIX I - TABLE II--Continued

Event #	Action	Coded Value	Date
	(atmosphere, underwater, and outer space), provided that France was included and that verification was via national means in a concession of definite effect.		
42	In a procedural retraction with a definite effect, USSR withdrew agreement for on-site inspections.	6	3/21/62
43	USSR offered to permit the emplacing of a network of automatic seismic detection stations operating under international supervision on its territory, provided that the US and UK each agree to emplace a similar network on their territories-- a concession of definite effect.	5.7	12/10/62
44	In a procedural concession with definite impact, USSR agreed to conduct high level negotiations to conclude a nuclear test ban treaty.	6	6/10/63
45	In a concession with definite effect, USSR omitted the condition that France participate before a partial test ban treaty could be negotiated.	6	7/2/63
46	USSR agreed to a concession with limited effect and withdrew the proposal to link a non-aggression pact with the signing of a nuclear test ban treaty.	3.3	7/24/63
47	USSR agreed to prohibit nuclear weapons tests that resulted in radioactive debris being present outside of the territorial limits of the testing nation.	3.7	7/25/63

APPENDIX I - TABLE III

SOVIET CONCESSIONS AND RETRACTIONS MADE

DURING OUTER SPACE TREATY NEGOTIATION

Event #	Action	Coded Value	Date
48	Proposed that a broad international agreement be concluded that would ban the use of cosmic space for military purposes, but included the elimination of foreign military bases as a joker.	1.3	3/15/58
49	USSR proposed that the placing into orbit or stationing in outer space of any special devices be prohibited but linked this to the acceptance of a joker-- its proposal for general and complete disarmament.	1.3	6/2/60
50	In a reversal of previous policy, USSR agreed to take steps to prevent the spread of the arms race to outer space without linking such an agreement with other disarmament measures such as elimination of foreign military bases.	9.3	9/19/63
51	In a concession of definite effect, USSR agreed to restrict the use of the moon and other celestial bodies to peaceful purposes and prohibit military uses of these areas.	6	12/8/66
52	USSR agreed that all stations, installations, equipment and space vehicles on the moon and on other celestial bodies shall be open for inspection on the basis of reciprocity in a concession of definite effect.	6	12/8/66

APPENDIX I - TABLE IV

SOVIET CONCESSIONS AND RETRACTIONS MADE DURING THE NUCLEAR NON-PROLIFERATION TREATY NEGOTIATION

Event #	Action	Coded Value	Date
53	USSR deleted the requirement that a nation could not install atomic military units or any types of atomic or hydrogen weapons beyond its natural frontiers in offering to agree on an agreement that prevented nuclear states from transferring weapons or information necessary for their manufacture to non-nuclear states, but within the confines of a general and complete disarmament agreement which is considered a joker.	1.7	6/2/60
54	In a reversal of policy, USSR agreed to pursue an international agreement on the non-dissemination of nuclear weapons without linking the proposal to comprehensive disarmament measures.	9	12/7/64
55	USSR agreed to accept "an acceptable"balance of mutual responsibilities with the nuclear non-nuclear powers in a limited effect concession.	3.7	11/19/64
56	USSR agreed to include in the treaty a requirement that prohibited the use of nuclear weapons against non-nuclear treaty members, provided that there were not any nuclear weapons positioned on the territory of the non-nuclear state in a concession of definite effect.	5.7	2/1/66

APPENDIX I - TABLE IV--Continued

Event #	Action	Coded VAlue	Date
57	In a reversal of policy, USSR agreed to delete the restriction on non-nuclear state participating in the ownership or use of nuclear weapons. Concession did not include passing control to non-nuclear nations.	9.3	8/24/67
58	In a procedural concession with definite effect, USSR agreed to expand the rule of unanimity for treaty amendments to include non-nuclear weapon states who were members of the IAEA Board of Governers at the time treaty amendments were circulated.	5.7	8/24/67
59	USSR agreed to conduct a review conference in Geneva five years after the effective date on the treaty in a concession with limited effect.	3	8/24/67
60	USSR agreed to a transition period during which the non-nuclear weapon nations of EURATOM could continue to operate under their own safeguards before coming under IAEA inspection in a concession with definite effect.	5	9/27/67
61	USSR agreed to permit each non-nuclear weapon state party to establish safeguards in bilateral negotiations with IAEA--a concession considered to have a limited effect since the USSR was represented on the IAEA.	3	1/18/68
62	In a concession of limited effect, USSR agreed to pursue negotiations for effective measures to halt the nuclear arms race.	3	1/18/68
63	As a concession with limited effect, USSR agreed to sponsor a UN	3	3/7/68

APPENDIX I - TABLE IV--Continued

Event #	Action	Coded Value	Date
	Security Council resolution providing assistance to a non-nuclear weapon state party that is the victim or object of a threat of aggression which involves the use of nuclear weapons.		
64	USSR agreed to expand the commitment to pursue negotiations in good faith to include disarmament in a concession of limited effect.	3.3	3/11/68
65	USSR agreed, in a concession of limited effect, to conduct treaty reviews at five year intervals, rather than once at the end of the first five years.	3	3/11/68
66	USSR agreed to stipulate that new efforts would be made to achieve agreement on banning underground nuclear testing in a concession without any real effect.	2	3/11/68

APPENDIX I - TABLE V

SOVIET CONCESSIONS AND RETRACTION MADE DURING THE SEABED ARMS CONTROL TREATY NEGOTIATION

Event #	Action	Coded Value	Date
67	USSR reversed the earlier policy of linking discussion on using the seabed or ocean floor for military purposes with broader, more comprehensive disarmament measures.	9	3/18/69
68	USSR reversed the original position and agreed to limit the scope of the treaty to nuclear weapons or other weapons of mass terror.	9	10/7/69
69	USSR agreed to verify the treaty with national means of verification.	6	10/7/69
70	In a procedural compromise of limited effect, USSR agreed that the treaty would enter into force when ratified by twenty-two governments.	3.3	10/7/69
71	USSR agreed to a procedural compromise that permitted treaty amendments by a majority vote, but requiring the approval of each nuclear capable party (Rule of Unanimity).	2	10/7/69
72	In a procedural compromise of definite importance, USSR agreed to delete the requirement for the approval of each nuclear capable party for treaty amendments, thus permitting amendments by majority vote.	5.7	10/30/69
73	USSR agreed to a procedural requirement with limited effect	3	10/30/69

APPENDIX I - TABLE V--Continued

Event #	Action	Coded Value	Date
	by agreeing to establish produres to refer suspected violations to the UN Security Council.		
74	USSR agreed to reinstate the procedural requirement for a review conference after five years in a concession of limited effect.	3	10/30/69

APPENDIX I - TABLE VI

SOVIET CONCESSIONS AND RETRACTION MADE DURING THE STRATEGIC ARMS LIMITATION TALKS (SALT I)

Event #	Action	Coded Value	Date
75	USSR reversed the earlier policy of linking any discussion of strategic nuclear weapons with broader more comprehensive measures by agreeing to begin discussions on both offensive and defensive strategic nuclear weapon systems.	9	6/27/68
76	In a procedural concession without any real effect, USSR agreed to alternate the location of the talks between Helsinki and Vienna.	1.3	10/UNK/69
77	In a reversal of its earlier position, USSR retracted agreement to include offensive weapons in SALT.	9.3	11/UNK/69
78	USSR agreed to US participation in an all-European security conference as an accomodating gesture.	5.3	1/13/70
79	In an accomodating gesture, USSR announced that the USSR was not seeking nuclear superiority over the US but was willing to accept nuclear parity.	5.7	3/7/70
80	USSR agreed to a production and deployment ban as a means to preclude deployment of MIRV--but maintained the right to test MIRV in a concession of definite effect.	5.3	4/UNK/70
81	In a reversal of official policy, USSR agreed to include offensive weapons in SALT (defined	9.3	5/6/71

APPENDIX I - TABLE VI--Continued

Event #	Action	Coded Value	Date
	by the USSR as ICBMs only--did not include SLBMs).		
82	USSR agreed, in principle, to establish a sublimit for the SS-9 (the specific number was to be determined).	7	5/6/71
83	USSR conceded the US a numerical advantage, from a Soviet perspective, by agreeing that the US FBS weapons did not have to be included in the aggregate total of US weapons being counted in the SALT agreement.	8	5/6/71
84	USSR modified its NCA ABM proposal in real terms numerically, but not in relative terms, to permit both the US and USSR to build two ABMs (1-NCA and 1-ICBM site).	3.7	9/UNK/71
85	In a reversal of principle, USSR agreed to include SLBMs in the total of strategic nuclear weapon systems included in the SALT.	9.7	4/21-24/72
86	USSR agreed to grant a procedural concession to the US by accepting a freeze on strategic offensive weapons (modification of earlier proposal for a 18-24 months freeze)--a concession with definite effect.	5.7	4/UNL/72
87	USSR agreed to formalize a statement for non-interference of national technical means of verification for the interim offensive agreement.	4.7	5/19/72
88	USSR agreed to a procedural condition with definite effect	4.7	5/22/72

APPENDIX I - TABLE VI--Continued

Event #	Action	Coded Value	Date
	that the second ABM site could not be located closer than 1,300 kilometers to the first site.		
89	USSR agreed to a compromise of definite effect with the US that silo modifications could not be "significantly increased" in order to prevent substituting "heavy" for "light" ICBMs.	5.3	5/22/72
90	USSR agreed to ban ABM-type radars not authorized by the ABM treaty as a means to prevent continued development of advanced radar components for the ABM.	7	5/22/72
91	In order to prevent development of advanced weapon systems, USSR agreed to include a ban on exotic ABM systems (space, sea, air or mobile systems).	7	5/22/72
92	As further clarification of a previous event, USSR agreed that silo modification could not exceed 10-15% in a concession of definite effect.	5.3	5/23/72
93	USSR agreed to a sublimit of 740 as the baseline number of Soviet SLBMs.	7	5/26/72
94	USSR agreed to the procedure of retiring one older SLBM or ICBM for each SLBM deployed above the baseline number of 740 (a concession of definite effect).	6	5/26/72
95	USSR agreed to count the older SLBMs deployed on "G" class boats (70) and those deployed on "H" class boats (30) in the baseline total.	7.7	5/26/72

APPENDIX I - TABLE VI--Continued

Event #	Action	Coded Value	Date
96	USSR agreed not to convert launchers designed for light ICBMs to accomodate heavy ICBMs in a concession of definite effect.	5.3	5/26/72

APPENDIX I - TABLE VII

REFERENCES FOR CONCESSION/RETRACTION EVENTS

Event #	Date	Reference
1	12/7/55	a)USACDA, Documents:1945-1959, Vol.1, p.571.
2,3	6/14/57	a)USACDA, Documents:1945-1959, Vol.2, p.791. b)Royal Institute of International Affairs, Documents on International Affairs:1958 (London: Oxford Univ. Press, 1960) pp.139-140.
4	3/31/58	a)USACDA, Documents:1945-1959, Vol.2, p.979. b)Current Digest of the Soviet Press, Vol.10, no.13 (May 7, 1958), p.34.
5	5/9/58	a)USACDA, Documents:1945-1959, Vol.2, p.1038. b)Current Digest of the Soviet Press Vol.10, no.19, (June 18,1958), p.26.
6	11/29/58	a)Congressional Hearings of the Subcommittee on Disarmament, Conference on the Discontinuance of Nuclear Weapons Tests: October 1958- August 1960 (Washington, D.C.: USGPO, 1960) p.12. b)Current Digest of the Soviet Press Vol.10, no.49 (January 14, 1959), p.38.
7	12/8/58	a)Subcommittee on Disarmament, Conference, p.27. b)USACDA, Documents:1945-1959, Vol.2, p.1376.
8	12/8/58	a)Subcommittee on Disarmament, Conference, p.5. b)USACDA, Documents:1961, pp.42-55.
9	12/12/58	a)Subcommittee on Disarmament, Conference, p.5.

APPENDIX I - TABLE VII--Continued

Event #	Date	Reference
10	12/15/58	a)Subcommittee on Disarmament, Conference, pp.50-52. b)USACDA, Documents:1945-1959, Vol.2, pp.1374-1377.
11	1/26/59	a)Subcommittee on Disarmament, Conference, p.45. b)USACDA, Documents:1961, p.47.
12	4/14/59	a)Subcommittee on Disarmament, Conference, p.51. b)USACDA, Documents:1945-1959, Vol.2, p.1375.
13	4/15/59	a)Subcommittee on Disarmament, Conference, p.45. b)USACDA, Documents:1945-1959, Vol.2, p.1377.
14	6/22/59	a)Subcommittee on Disarmament, Conference, p.46. b)USACDA, Documents:1945-1959, Vol.2, p.1377.
15	6/30/59	a)Subcommittee on Disarmament, Conference, p.51. b)USACDA, Documents:1961, p.45.
16,17	7/9/59	a)Subcommittee on Disarmament, Conference, p.26 7 51 b)Current Digest of the Soviet Press, Vol.11, no.32 (SEP 9, 1959) pp.14-15.
18	7/16/59	a)Subcommittee on Disarmament, Conference, p.51. b)USACDA, Documents:1961, p.45.
19	7/16/59	a)Subcommittee on Disarmament, Conference, p.40.
20	12/14/59	a)Subcommittee on Disarmament, Conference, p.52. b)USACDA, Documents:1961, p.45.
21	12/14/59	a)Subcommittee on Disarmament, Conference, p.23. b)USACDA, Documents:1961, p.47.

APPENDIX I - TABLE VII--Continued

Event #	Date	Reference
22	1/26/60	a)Subcommittee on Disarmament, Conference, p.40.
23	2/8/60	a)Subcommittee on Disarmament, Conference, p.16.
24	2/19/60	a)Subcommittee on Disarmament, Conference, p.37. b)Facts on File, Disarmament and Nuclear Tests:1960-1963 (New York: Facts on File, Inc., 1964) p.21.
25	2/26/60	a)Subcommittee on Disarmament, Conference, p.38. b)Facts on File, Nuclear Tests: 1060-1963, p.21. c)USACDA, Documents:1961, p.45.
26	3/19/60	a)USACDA, Documents:1960, pp.72-77. b)Subcommittee on Disarmament, Conference, p.22.
27	4/14/60	a)Subcommittee on Disarmament, Conference, p.12. b)USACDA, Documents:1960, p.85. c)Facts on File, Nuclear Tests: 1960-1963, p.23.
28,29	5/3/60	a)USACDA, Documents:1960, pp.83-86.
30	6/20/60	a)Subcommittee on Disarmament, Conference, pp.27-28. b)USACDA, Documents:1961, p.64.
31	6/23/60	a)Subcommittee on Disarmament, Conference, p.14.
32	7/5/60	a)Subcommittee on Disarmament, Conference, p.10.
33	7/15/60	a)Subcommittee on Disarmament, Conference, p.10.
34	7/26/60	a)Subcommittee on Disarmament, Conference, p.26. b)USACDA, Documents:1960, pp.172-180.

APPENDIX I - TABLE VII--Continued

Event #	Date	Reference
35,36	8/11/60	a)Facts on File, Nuclear Tests: 1960-1963, p.25. b)USACDA, Documents:1960, pp.208-211.
37	3/21/61	a)Facts on File, Nuclear Tests: 1960-1963, p.41. b)USACDA, Documents:1961, pp.42-55. c)Current Digest of the Soviet Press, Vol.13, no.15 (May 10,1961) p.27.
38	8/30/61	a)Facts on File, Nuclear Tests: 1960-1963, pp.45-59. b) USACDA, International Negotiations: PTB (1962), p.1.
39	9/9/61	a)Facts on File, Nuclear Tests: 1960-1963, p.49. b)Current Digest of the Soviet Press, Vol.13, no.45 (DEC 6,1961) p.38.
40	11/21/61	a)USACDA, Documents:1961, pp.635-636. b)Facts on File, Nuclear Tests: 1960-1963, p.57. c)Current Digest of the Soviet Press, Vol.13, no.47 (DEC 20,1961) p.33.
41	11/28/61	a)USACDA, Documents:1961, pp.674-675. b)USACDA, International Negotiations: PTB(1962), p.34.
42	3/21/62	a)USACDA, Documents:1962, Vol.1, pp.163-166. b)Facts on File, Nuclear Tests: 1960-1963, p.70.
43	12/10/62	a)USACDA, Documents:1962, Vol.2, pp.1183-1196. b)Current Digest of the Soviet Press, Vol.14, no.52 (JAN 23,1963) p.33.
44	6/10/63	a)USACDA, Documents:1963, p.220.
45	7/2/63	a)USACDA, Documents:1963, pp.244-246. b)Current Digest of the Soviet Press, Vol.15, no.27 (JUL 31,1963) pp.3-9.

APPENDIX I - TABLE VII--Continued

Event #	Date	Reference
46	7/24/63	a)Facts on File, Nuclear Tests: 1960-1963, p.94. b)USACDA, Documents:1963, pp.249-250. c)Current Digest of the Soviet Press, Vol.15, no.30 (AUG 21,1963) p.3.
47	7/25/63	a)USACDA, Documents:1963, pp.291-293.
48	4/4/60	a)Facts on File, Nuclear Tests: 1960-1963, p.11. b)Current Digest of the Soviet Press, Vol.12, no.17 (MAY 17,1960), pp.3-7.
49	6/2/60	a)USACDA, Documents:1960, p.106. b)Current Digest of the Soviet Press, Vol.12, no.23 (JUL 6, 1960) pp.3-8.
50	9/19/63	a)USACDA, Documents:1963, p.523.
51,52	12/8/66	a)USACDA, Documents:1966, pp.809-816.
53	6/2/60	a)USACDA, Documents:1960, pp.100-111.
54	12/7/64	a)USACDA, Documents:1964, p.512.
55	12/19/65	a)USACDA, Documents:1965, pp.532-534. b)USACDA, International Negotiations: NPT, p.25.
56	2/1/66	a)USACDA, Documents:1966, p.11. b)Current Digest of the Soviet Press, Vol.18, no.5 (FEB 23,1966) pp.18-19.
57,58 59	8/24/67	a)USACDA, Documents:1967, pp.338-341. b)Current Digest of the Soviet Press, Vol.19, no.34 (SEP 13,1967) p.14.
60	9/27/67	a)Facts on File, Nuclear Tests: 1964-1969, p.139. b)Current Digest of the Soviet Press, Vol.20, no.3, (FEB 7,1968) p.15.
61,62	1/18/68	a)USACDA, Documents:1968, pp.1-6. b)Current Digest of the Soviet Press, Vol.20, no.3 (FEB 7,1968) p.15.

APPENDIX I - TABLE VII--Continued

Event #	Date	Reference
63	3/7/68	a)USACDA, International Negotiations: NPT, p.112. b)USACDA, Documents:1968, pp.156-158.
64,65 66	3/11/68	a)USACDA, Documents:1968, pp.162-166. b)Facts on File, Nuclear Tests: 1964-1969, p.163.
67	3/18/69	a)USACDA, International Negotiations: Seabed Treaty, p.7. b)USACDA, Documents:1969, pp.111-112.
68,69 70,71	10/7/69	a)USACDA, Documents:1969, pp.473-475. b)USACDA, International Negotiations: ST, pp.45-48. c)USACDA, Documents:1969, pp.475-481.
72,73 74	10/30/69	a)USACDA, International Negotiations: Seabed Treaty, p.47. b)USACDA, Documents:1969, pp.507-509.
75	6/27/68	a)USACDA, Documents:1968, p.452.
76	10/25/69	a)USACDA, Documents:1969, p.502.
77	11/69	a)USACDA, Documents:1972, pp.301-302. b)USACDA, Arms Control Agreements, p.128.
78	1/13/70	a)"Soviet Favors US Role in European Conference", The New York Times (January 14,1970), p.1.
79	3/7/70	a)"Soviet Denies Aim is to Surpass U.S. in Nuclear Arms", The New York Times (March 8,1970), p.1. b)Current Digest of the Soviet Press Vol.23, no.27, (AUG 3,1971) p.8.
80	4/70	a)USACDA, Documents:1972, p.301. b)USACDA, Documents:1971, pp.172-173.
81,82 83	5/6/71	a)USACDA, Documents:1972, p.374. b)Richard Nixon, Structure of Peace, pp.174-175.

APPENDIX I - TABLE VII--Continued

Event #	Date	Reference
81,82 83 (cont'd.)	5/6/71	c)USACDA, Documents:1972, pp.172,236.
84	9/71	a)USACDA, Documents:1972, p.302.
85	4/21/72	a)USACDA, Documents:1972, pp.208,303. b)"Curb on Offensive Missiles Expected by U.S. in Pact", The New York Times (MAY 9,1972), p.3. c)Editorial, The New York Times (MAY 9,1972), p.40.
86	4/72	a)USACDA, Documents:1972, pp.323-325.
87	5/19/72	a)USACDA, Documents:1972, p.211. b)"Arms Pact Linked with Open Skies", The New York Times (MAY 20,1972),p.1.
88	5/22/72	a)USACDA, Documents:1972, p.211. b)USACDA, Arms Control Agreements, p.131.
89	5/22/72	a)USACDA, Documents:1972, p.316.
90,91	5/22/72	a)USACDA, Documents:1972, pp.488-497.
92	5/23/72	a)USACDA, Documents:1972, pp.309,526. 526.
93	5/27/72	a)USACDA, Documents:1972, pp.220,427, 526.
94,95	5/27/72	a)USACDA, Documents:1972, pp.219,304, 427.
96	5/26/72	a)USACDA, Arms Control Agreements, pp.139-149.

APPENDIX II

Tabular Evaluation of Agricultural Progress

In the Soviet Union

APPENDIX II - TABLE I

INDEX OF RELATIVE CODED VALUES

Criteria	Coded Values
a)A major shift of capital resources into agriculture sector of economy. b)Restructuring of national control of agriculture at the highest levels.	Extremely Important Value 9-10
a)Input of major capital resources into a limited area of the agricultural sector - limited in territory or in commodity or product. b)Change in commodity prices of farm products and/or change in pay or benefits for farm workers, to include non-monetary incentives. c)Denunciation of current or past Communist Party leaders and their agriculture policies in public forum by Party leaders at the national level, obviously in order to avert blame for failure or to justify major adjustments in agriculture policy. d)Removal of one or more officials dealing with a broad portion of the agricultural sector--leadership at national level or a scope involving several republics, regions, or agricultural periods. e)Admission by CPSU officials that output is seriously short of requirement/goal, possibly necessitating undesired foreign purchases. f)Affirmation that output has met, failed to meet, exceeded requirements/goals in broad agricultural segment or in certain essential commodities (wheat, silage grains, etc.).	Very Important Value 7-8

APPENDIX II - TABLE 1--Continued

Criteria	Coded Values
a) Implementation of national agricultural programs which are new or which have been previously discarded and which may conflict with Marxist-Leninist ideological concepts. b) Announced or perceived shift towards centralization or decentralization of agriculture management. c) Denunciation or criticism of agriculture leaders for failure or shortcomings of programs/theories/ideas to include criticism of leadership at the republic level by leadership at the national level. d) Removal of one or more Party or agriculture leaders from position in a limited portion of the agriculture sector - i.e., from a single republic. e) Admission that output is short of requirements/goals. f) Affirmation that production has met or exceeded requirement/goal in a non-critical commodity and which has previously been an area of interest but not an area of continuing success.	Important Value 5-6
a) Proposal by national leaders for reorganization of agricultural sector - usually a device to test reaction by CPSU leadership. b) Optimistic production forecasts. c) Admission of production "problems" by national leaders.	Less Important Value 3-4
a) Calls for reorganization by local leaders and technicians. b) Inspection or motivation tour of agricultural areas by leaders. c) Calls for greater output without specific reference to particular segment of agriculture.	Of Minor Importance Value 1-2

APPENDIX II - TABLE II

TREND OF EVENTS AND POLICIES IN

SOVIET AGRICULTURE (by month)

Month	No.	Event	Value
1958			
JAN	(1)	a)Soviet government concedes failure in '57 harvest, blaming drought.	6
		b)Soviet leader N.S. Khrushchev proposed gradual elimination of Machine Tractor Stations and sale of equipment to collective farms. This move has been seen by many U.S. observers as a political gamble involving 8500 stations.	8
		c)Soviet government enters into a cultural agreement with U.S. to ask U.S. scientists to visit USSR on a reciprocal basis to lecture on agricultural subjects.	2
FEB	(2)	a)CPSU Central Committee ratifies plan presented by Khrushchev and appoints him to monitor its implementation and report on it to the Supreme Soviet.	9
MAR	(3)	a)Khrushchev speaks to Supreme Soviet on the agricultural reforms and is hailed for his plan to end MTS.	5
APR	(4)	a)Supreme Soviet adopts plan to let collectives buy and own machinery. (System is implemented on 12 APR)	4
		b)Khrushchev says that the Party must exercise greater control over farms in the new system.	6
		c)Khrushchev renews his pledge to overtake the U.S. soon in per capita output.	3
		d)Khrushchev blames Malenkov and	5

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		other ousted Party members for the nation's problems with agricultural programs. Malenkov publicly admits his shortcomings and errors.	
MAY	(5)	a)Khrushchev opens Moscow agricultural exhibit and calls for increased output.	1
JUN	(6)	a)Khrushchev, in a speech to a Central Committee, announces a plan to end compulsory deliveries of farm products to the state at low prices, and abolish the system which allows farms to pay for services in kind. This is seen to have the objective of cutting output costs.	7
JUL	(7)	a)Khrushchev's "new order" plan goes into effect and a system of procurement at relatively uniform prices is set up.	7
		b)Agriculture Minister Matskevich states that he foresees a good harvest.	3
AUG	(8)	a)Khrushchev wins applause from Moscow housewives with his plan to establish special farms and hot houses near cities to supply fruit and vegetables.	1
		b)Soviet news agency, TASS, estimates that 1958 grain harvest will be the best ever, even in the newly cultivated land in north central Asia and southern Siberia.	4
SEP	(9)		N/A
OCT	(10)	a)Khrushchev hails progress in the mechanization progress in agriculture.	3

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
NOV	(11)	a)Deputy Premier Mikoyan hails a bumper crop in the 1958 harvest.	3
		b)Soviet government sources reveal that they plan to increase output by 70% by the year 1965.	4
DEC	(12)	a)Khrushchev publicly charges that Soviet leaders Malenkov, Molotov, and Kaganovich, whose policies were effective just prior to his establishment in power, drove farmers toward ruin.	5
		b)Khrushchev calls for rapid output rises and pledges rewards to peasants who do well at raising while lowering costs.	2
1959			
JAN	(13)		N/A
FEB	(14)	a)An acute shortage of girls in remote area collective farms was noted by young farmers.	1
MAR	(15)		N/A
APR	(16)		N/A
MAY	(17)	a)Khrushchev tours farms in Ukraine and Moldavia, calling for more output and increased mechanization.	2
		b)Khrushchev attacks collective farms high wages and proposes that all available funds be put into communal facilities.	7
JUN	(18)		N/A
JUL	(19)	a)Khrushchev admits that there have been problems in the use of the agricultural labor force in the "virgin lands".	3

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		b)Central Committee schedules a session for December to discuss problems on raising output and speeding mechanization.	3
AUG	(20)	a)Soviet plan-fulfillment report cites progress in Soviet agriculture primarily in the area of meat and dairy products.	6
SEP	(21)		N/A
OCT	(22)	a)Khrushchev admits shortage of girls on farms and emphasizes publicly in a speech to female agriculture workers that girls no longer need to leave the farms to find husbands.	3
		b)Grain deliveries to the state indicate a substantial shortfall by 20-30% compared to 1958 crop. In addition to falling short of the Seven Year Plan for 1959, this also reduces Soviet ability to export the needed 8,000,000 tons to Eastern Europe.	8
NOV	(23)	a)Young Communist League reports that settlers of "virgin land" in Kazakhstan charged government neglect, siting food shortages and lack of consumer goods.	2
		b)Soviet sources report a plan is being developed to provide more centralized control of agriculture and a tighter control of the ownership and use of private land.	5
DEC	(24)	a)CPSU Central Committee meets in closed session to weigh output situation and hear Khrushchev's report.	4
		b)Premier Polyanski (Russian Republic) and Ukrainian party chief, Podgorny present a plan	4

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		for government to organize agriculture associations to manage collective farms, pool resources and spur cooperation.	
		c)Central Committee is clearly disappointed with 1959 yields and indicates that 30-40 million more acres of virgin land will be opened.	9
		d)Kazakhstan party chief, N. I. Belyayev and Premier Kunayev were severely criticized by Khrushchev for giving misleading information that agricultural progress in Kazakhstan was good.	8
		e)Central Committee orders tighter party control over collectives, broad organizational changes to spur output, and indictment of Kazakhstan leaders.	6
1960			
JAN	(25)	a)Kazakh Communist Party concedes that criticism by CPSU Central Committee was justified.	5
		b)Belyayev (Head of Kazakh Communist Party) is ousted as a result of Khrushchev's criticism.	5
FEB	(26)		N/A
MAR	(27)	a)An article published in Soviet Union by T. I. Zaslavskaya contains statements by economists urging the government to alter its policies, give peasants larger and fairer shares in the economy as well as other material incentives.	2
APR	(28)	a)Soviet news agency TASS reports that tractor drivers are being drafted for work in Kazakhstan to help avoid a repeat of 1959	6

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		poor harvest period.	
		b)Khrushchev affirms that USSR will soon surpass U.S. in agricultural production.	4
MAY	(29)		N/A
JUN	(30)	a)In a report to an agricultural experts conference in Moscow, Agriculture Minister Matskevich expresses optimism on Soviet harvest despite bad weather. He reports that 350 million acres have been planted.	4
		b)Matskevich announces completion of a plan to divide the nation into 39 agricultural zones and increase centralization of management.	4
JUL	(31)	a)Khrushchev reports that goals for first half of the Seven Year Plan's second year are overfilled.	7
		b)Kazakhstan addition of Pravda reports that millions of acres of winter wheat have been destroyed by dust storms. Mid year statistics show an overall lag in progress.	4
AUG	(32)		N/A
SEP	(33)	a)Pravda warns agricultural workers to speed up efforts to harvest grain in Siberian virgin land.	3
OCT	(34)		N/A
NOV	(35)	a)Deputy Premier Kozlov concedes in a Moscow speech that the bad weather has caused setbacks in agriculture.	4
		b)Pravda publishes editorials criticising output lag in Moldavia.	4

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
DEC	(36)	a)Evidence of mismanagement in several agricultural areas emerges as coverups become evident with harvest shortages.	5
		b)Agriculture Minister Matskevich is transferred to Kazakhstan to supervise "virgin lands" program and Mikhail Olshansky is named in his place.	6
1961			
JAN	(37)	a)At an agricultural meeting of the Communist Party Central Committee, Ukrainian Premier Podgorny and Kazakh party chief Kunayev reports serious output lag.	7
		b)At the same meeting, Khrushchev charges them with deceit and malpractice and orders criminal charges. Major shakeups in agriculture and party officials occurs in Ukraine, Kazakhstan, Kirghizstan and Byelorussia.	8
		c)Central Trade Union Council chairman, Grishin, reports that state farm workers will get bonuses in a drive to raise output quantity and quality.	7
		d)Khrushchev presents a plan for reforms in the agriculture ministry.	9
FEB	(38)	a)Party chiefs are ousted in Odessa Region and in Smolensk, Lvov areas for agriculture failure.	7
		b)Plans are approved for major shift of funds to agriculture from other sectors of the economy.	9
		c)Agriculture Ministry reduced in responsibility for management and becomes primarily responsible for research.	6
		d)Khrushchev reviews plans for replacement of farm village	6

APPENDIX II - TABLE II--Continued

Month	No.	Event	Vlaue
		with urban settlements called agrogorods. Farm labor will become like factory workers.	
		e)Government states that it will offer big tax concessions to farmers, lower interest rate on state loans and extended terms of payment to strengthen collective farms, and promote lower output costs.	8
MAR	(39)	a)Khrushchev berates and blames previous leaders for poor agriculture policy and current failures - Bulganin, Malenkov, Molotov, and Kaganovich.	6
		b)Ukrainian party chairman, Kalchenko, is replaced and agriculture ministers in Uzbekistan, Kazakhstan, Tadzhikistan and Lutvia are ousted. Also, the Kharkov region party secretary, Titov, is ousted. All of these removals are due to agriculture problems.	8
		c)Khrushchev reports that the goals for agriculture will not be lowered and that yearly output rise of 10.5% is required for the next five years.	7
APR	(40)	a)Numerous high ranking officials in Tadzhikistan are removed from their positions and ousted from the Communist Party as aresult of corruption and mismanagement in agriculture and other areas.	5
MAY	(41)	a)Reports from Moscow indicate a lag in spring planting which is of concern.	3
JUN	(42)		N/A

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
JUL	(43)	a)Reports are leaked indicating that considerable sandstorm activity has started and threatens "virgin land" crops.	4
		b)Government sets up control committees with great powers to deal with false reporting by agriculture managers and under tight party control.	5
AUG	(44)	a)Khrushchev reports on radio and television that a record crop is likely for 1961.	4
		b)T. D. Lysenko gains post of president of the Academy of Agriculture Science in the current government move to improve agriculture.	5
SEP	(45)		N/A
OCT	(46)	a)USSR discloses a virtual crop failure in Kazakhstan and the "virgin lands" and serious problems in the western farming area - failure of a magnitude which may have impact on foreign policy.	7
		b)Khrushchev publicly states that the harvest is a large one but does not meet demand caused by growth.	5
NOV	(47)	a)Khrushchev tours farms in Central Asia and states that the future of Communism is linked with agricultural success.	1
DEC	(48)	a)At an agriculture meeting in Moscow, Khrushchev threatens officials with dismissal from the Party for non-compliance with his proposals for raising output, i.e., shifts to crops with higher yields.	4
		b)Supreme Soviet decrees punishment for farmers caught abusing	3

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		farm machinery.	
1962			
JAN	(49)	a)Khrushchev, in a speech at Minsk, denounces the lag in Byelorussia and appeals for continued switch to high yield crops and calls for a drop in crop rotation.	3
FEB	(50)	a)Pravda criticizes the continuing lag in planting.	3
MAR	(51)	a)Khrushchev, in a speech to Communist Party Central Committee, sees a major threat to the Seven Year Plan and blames the lag in agriculture on the rotation system and poor management. He urges establishment of regional management bodies to plan and direct output as well as manufacture of more machinery and use of more fertilizers.	5
		b)Thousands volunteer to help in the fields in response to Khrushchev's appeal.	2
APR	(52)	a)Two ranking officials in Agricultural Sciences Committee are replaced following Lysenko's ouster.	5
		b)Union Committee on Agriculture is named to be the highest coordinating farm agency under the new management system. Deputy Premier Ignatov is named to be the chairman.	5
MAY	(53)		N/A
JUN	(54)	a)Government raises butter and meat prices to get funds to spur agriculture, without	7

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		diversion of resources from defense.	
		b)Khrushchev predicts a record grain harvest if the weather continues to be favorable.	4
JUL	(55)	a)In an interview with American newspaper editors, Khrushchev states that he would rather invest in agriculture than in rockets.	1
		b)Khrushchev blames the high production costs of Soviet agriculture on Stalin's refusal to allow rural electrification and other modernization.	5
AUG	(56)	a)In a tour of collective farms, Khrushchev says that greater output must occur; and he criticizes agriculture ministry for its failure to introduce new techniques and equipment.	2
		b)Khrushchev urges increased incentives for young people on the farms and wage differentials to spur output.	7
SEP	(57)	a)Articles in the Soviet press show rising concern over the prospects for a poor harvest in 1962 as a result of poor weather, mismanagement, and lack of equipment.	5
		b)Reports emerge from Leningrad region which say that the 1962 harvest is unsatisfactory and behind planned goals by 50%.	5
OCT	(58)	a)Soviet news reports state that 1962 harvests are significantly behind schedule.	5
NOV	(59)	a)Russian Party Bureau reports on 4 November that the farms of the Russian Republic have fulfilled	7

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		their grain schedule delivery plan ahead of schedule.	
		b)Khrushchev announces sweeping reorganization which will divide all national economic activity into industry and agriculture and the segments will be administered under a dual system (speech to Central Committee).	9
		c)Chairman of the State Planning Committee reports that agriculture will receive 12% of government economic development funds in 1963. He adds that the amount of investment will be 30% above that of 1962 and that collective farms will be required to invest large sums of their own. V. I. Polyakov will be the head of the new agricultural bureau.	10
DEC	(60)		N/A
1963			
JAN	(61)		N/A
FEB	(62)		N/A
MAR	(63)	a)Soviet Agriculture Minister Pysin is relieved from his position and replaced by agronomist Ivan Volovchenko.	5
		b)Khrushchev, in a Moscow speech, reemphasizes his "agrogorod" theme proposing that state farms should be turned into large agricultural factories.	6
		c)Khrushchev, in a speech paraphrased by Pravda, proposes that Russian Federal Republic should shift from grain production to the production of meat and dairy products.	5
APR	(64)		N/A

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
MAY	(65)		N/A
JUN	(66)		N/A
JUL	(67)		N/A
AUG	(68)	a)Pravda attacks a vegetable shortage in Moscow and other areas of the Soviet Union stating that as of 10 August only 14% of the vegetable procurements had been filled and only 2% of the potato requirements.	5
SEP	(69)	a)Soviet citizens are asked to tighten their belts and conserve bread due to severe grain harvest problems. They are told that although hunger is not expected, the prices of bread will rise and the prospect looms for approximately $7 million in purchase of foreign grain - estimated loss is approximately 10% of the crop.	8
		b)Khrushchev asks an all-out effort to improve agriculture management and stresses increased development and use of irrigation and fertilizers, hinting that future output rise will be on existing acreage but with increased fertilizer use.	6
OCT	(70)	a)Khrushchev, in elaborating on the nation's difficult position from the poor harvest, calls for more irrigation and greater fertilizer output. He stresses his plan to raise the yield on existing acreage, indicating an end to the acreage extension program. Khrushchev indicates that the cost of restructuring the agricultural system will be approximately $15 billion.	9

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
NOV	(71)	a)Negotiations continue for sale of $250 million in grain by US to USSR.	9
DEC	(72)	a)Khrushchev, in a speech to Central Committee, proposes the doubling of farm output by 1970 through a seven year multi-billion dollar program to expand the chemical fertilizer industry to almost triple production by 1970 to 80 million tons.	10
1964			
JAN	(73)	a)Sale of 1 million tons of wheat to Soviet Union announced by the U.S. and export licenses are issued.	9
FEB	(74)	a)Khrushchev opens a special agriculture session of the Central Committee. Agriculture Minister, Volovchenko, promises a more scientific approach to farming and critizes previous erratic directives while uring remedies to prevent occurrence of 1963 failures.	4
		b)Agriculture Ministry reports that thousands of successful farm managers and agriculture experts have been reassigned to backward areas to raise output.	7
		c)Khrushchev introduces a pension plan to reduce disparity between state farms and collectives.	7
MAR	(75)	a)Government and Communist Party mark the 10th anniversary and the end of the virgin lands program.	1
		b)Khrushchev and Central Committee decide that more autonomy will be given to farm managers in planning land use, incentives and	5

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		utilization of farm labor - decentralization.	
APR	(76)		N/A
MAY	(77)	a)Pravda announces that late arrival of spring in some areas of the Soviet Union have delayed planting considerably.	3
JUN	(78)	a)Khrushchev announces optimism over output for 1964, stating that as of 10 June, 361.6 million acres had been planted and that in 5 to 7 years the Soviet Union will be a net exporter of agricultural products.	4
JUL	(79)	a)Khrushchev reports in a speech to the Supreme Soviet that farmers in collective farms will get old age pensions financed by the government and collectives jointly beginning in 1965.	5
AUG	(80)	a)Khrushchev makes a wide tour of farming areas and in numerous speeches outlines changes to policy which he is considering including specialized agencies for each crop, assignment of sections of land to each farmer with responsibility for production on it, changes to allow compensation of farmers based on quantity and quality of output rather than on work done.	6
SEP	(81)	a)Government sources report that initial indicators show good harvest progress and possibility for a good crop.	3
OCT	(82)	a)Khrushchev is ousted from office and the reasons are linked to his	10

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		personal and erratic handling of agriculture.	
		b)Crop reports generally across the Soviet Union show a good harvest, easing the pressure on the new Soviet leadership.	3
NOV	(83)	a)New Soviet leadership, in its first reversal of Khrushchev policy moves to spur private farming to raise output. Brezhnev states that the program of increased investment in agriculture will continue.	6
		b)Central Committee ends the division of party structure into separate organs for agriculture and industry.	5
		c)V. I. Polyakov, chief of the Central Committee's farm bureau is ousted. Brezhnev is named to be new First Secretary of CPSU.	5
DEC	(84)		N/A
1965			
JAN	(85)	a)Government implements reforms where farmers will be paid for output rather than for work performed.	5
		b)Central Statistical Board reports that the 1964 crop exceeded that of 1963 by 12%.	5
FEB	(86)	a)Dr. T. D. Lysenko is removed from directorship of Academy of Sciences Agriculture Institute and he is replaced by his opponent P. P. Lobanov.	6
		b)Matskevich is renamed Agriculture Minister and Volovchenko is moved to position of First Deputy Premier.	5

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
MAR	(87)	a) Soviet news agency Tass Reports that the Agriculture Ministry will once again assume responsibility for the output of state and collective farms to include procurement.	6
		b) Brezhnev urges urgent measures in a speech to the Central Committee and states that $78 billion will be allocated to agriculture, doubling agriculture investment. He also states that higher prices will be paid for farm products and that farmers will pay lower taxes and lower prices for consumer goods - a major shift in policy.	9
APR	(88)	a) Government plans to let collective farmers get building loans from the state bank and cancellation of $2 billion in previous debts.	7
		b) Government begins a program to raise the output of 100 million acres of northcentral European Russia which will include payment of top prices for produce and ambitious soil improvement plans. This area had been previously neglected under the virgin lands program.	5
MAY	(89)		N/A
JUN	(90)		N/A
JUL	(91)		N/A
AUG	(92)	a) Major of purchases of foreign wheat are announced, primarily from Argentina and Canada, bringing the years total to approximately 9.5 million metric tons.	8

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
SEP	(93)	a) Brezhnev admits that serious problems still exist in Soviet agriculture.	4
		b) Pravda publishes speches by former Agriculture Minister Pysin and Premier Brezhnev which strongly criticize Khrushchev's agriculture policies.	7
OCT	(94)		N/A
NOV	(95)	a) First Deputy Premier, D.S. Polyansky, states that 1965 crop record is good but that grain deliveries will be below those figures which had been planned. Considerable doubt was placed on the validity of the 1964 crop figures.	4
DEC	(96)	a) Government says it will give collective farms direct bank credit and that it will cut prices up to 2/3 on automotive machinery for farms.	7
1966			
JAN	(97)	a) Brezhnev states that collective farms will get electric power rate cuts under the new farm relief program.	6
		b) Brezhnev announces that he will head a committee drafting plans to give collective farmers a guaranteed wage.	6
FEB	(98)	a) Even though meat and dairy products register reasonable increases, the government reports that a disappointing increase of only 1% was obtained in grain over 1965.	5

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
MAR	(99)		N/A
APR	(100)	a)Kosygin reaffirms to the Communist Party Congress that farmers will soon receive a guaranteed minimum monthly wage.	5
MAY	(101)	a)Brezhnev notes the exodus of Soviet youths from farms and that the minimum wage program will heal this. He urges city youths to move to farms.	4
JUN	(102)	a)Canada and USSR sign an agreement for Soviet purchase of wheat.	9
		b)Hints of problems with 1966 harvest emerge as Soviet news media carry reports of severe weather throughout Soviet agriculture areas to include "unending rains" and "massive hailstorms".	4
JUL	(103)		N/A
AUG	(104)	a)Soviet farms begin a nation wide competition involving personal responsibility of farmers for land in some areas, bonuses and honors to spur output as part of a government mobilization.	8
SEP	(105)	a)Brezhnev and Kosygin admit low living standards and poor conditions for collective farmers.	4
		b)Reports from agricultural areas indicate that a record harvest is occurring.	5
OCT	(106)		N/A
NOV	(107)	a)Record grain harvest is reported and with it, record income for	8

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		farmers as a result of higher per acre yields and higher total yield.	
DEC	(108)	a)Agriculture Minister Matskevich reports that the Soviet Union will be able to export grain as a result of current harvest and replenish its strategic reserves.	7
1967			
JAN	(109)	a)Government reports collective farmers income rose 16% and productivity rose 12% along with major total output grains.	7
FEB	(110)		N/A
MAR	(111)		N/A
APR	(112)	a)Tass reports that plans are being developed to extend profit-oriented measures to state farms to raise efficiency.	6
		b)Government decree orders a comprehensive 10 year program to plant 800,000 acres of tree belts and 2 million acres of shrubs to combat the growing erosion problems in the steppes and in the Kazakhstan virgin lands.	6
MAY	(113)	a)Surveys indicate that the total Soviet grain output for 1967 will be 20 to 25 million tons less than in 1966, possibly not requiring additional purchases but stagnating the build-up of state reserves.	7
JUN	(114)		N/A
JUL	(115)		N/A

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
AUG	(116)	a)Soviet Union purchases 75 million bushels of wheat and flour from Canada.	9
		b)Soviet news agencies state that the grain crop is barely above that of 1965 and falls considerably short of expectations and needs.	7
SEP	(117)	a)Council of Ministers authorizes members of collectives to operate small factories as a sideline and to sell products at prices to be negotiated with distributors. Agriculture managers are ordered to assist in the establishment of such plans-another move in the direction toward profit motivation and increased incentives.	6
OCT	(118)	a)Premier Kosygin states that agriculture investment in 1968 will be roughly comparable with 1966 and considerably lower than was originally planned. This is in view of the successes of profit-oriented tests in the recent past and will allow funds diversion into consumer industry. This program of reduced agriculture investment was sponsored by Brezhnev.	6
NOV	(119)	a)Agriculture Ministry reports that the experimental transfer of 400 deficit-operating state farms to a self-supporting profit system improved efficiency and reduced costs. The government seeks to end subsidies which were 1.1 billion dollars in 1965.	5
DEC	(120)		N/A

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
1968			
JAN	(121)		N/A
FEB	(122)		N/A
MAR	(123)		N/A
APR	(124)	a)Central Committee meets to discuss the changes which have occurred in Soviet agriculture since the post-Khrushchev collective leadership instituted numerous reforms.	2
MAY	(125)		N/A
JUN	(126)	a)Supreme Soviet approves a land law reviving land registries to put a valuation on land and curb waste and abuse. The law aims to end the use of rich farmland for housing or industry and to regulate private use by workers on state or collective farms.	3
JUL	(127)		N/A
AUG	(128)		N/A
SEP	(129)		N/A
OCT	(130)		N/A
NOV	(131)	a)Central Committee endorses Brezhnev's report calling for a rapid rise in agricultural production and which expresses concern that farmers often put more time and effort into private plots than in their primary farming duties.	4

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
DEC	(132)		N/A
1969			
JAN	(133)	a)Soviet publications urge that farm youths be formally enlisted into the ranks of collective farmers at age 16.	2
FEB	(134)		N/A
MAR	(135)	a)Farm production is reported lagging as result of bad weather which has resulted in severe crop damage and livestock loss.	4
APR	(136)	a)In order to attempt to recoup losses in all parts of the economy, Soviet workers (including agriculture) will donate one extra day of work.	5
MAY	(137)		N/A
JUN	(138)	a)After a severe winter which damaged winter crops, the Government and CPSU pass a resolution to mobilize all sectors of the economy to prevent further heavy crop losses. Local governments are empowered to draft workers to fill necessary agricultural jobs and to use all available construction materials to build temporary shelters for harvested crops.	6
JUL	(139)		N/A
AUG	(140)		N/A
SEP	(141)	a)As a result of poor weather and harvesting delays, the Soviet grain harvest is several weeks behind shcedule and only a "mediocre" crop expected.	4

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
OCT	(142)		N/A
NOV	(143)	a) Brezhnev concedes that serious "errors" has occurred in the collective farming system and that under a new plan the size of private plots will be allowed to double.	7
		b) The 1969 grain crop is labeled a setback. Though the 150 million tons harvested is only slightly below the average of the last five years, the population has risen by 15 million in that same time, causing a sharp per capita drop.	7
DEC	(144)	a) Deputy Premier Baibakov reports that per capita output declined in 1969 and that 1970 production goals will be reduced - in a speech to the Supreme Soviet and which obviously meant greater reliance on the profit incentives of farmers.	7
1970			
JAN	(145)		N/A
FEB	(146)		N/A
MAR	(147)	a) Russian Republic Premier Voronov warns farm managers not to attribute 1969 crop failures to weather as such action demoralizes farmers and weakens labor discipline. He says managers must not repeat the serious mistakes of 1969.	5
APR	(148)		N/A
MAY	(149)		N/A
JUN	(150)	a) Soviet government statistics show increasing declines in	5

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		availability and per capita production of meat products in the fact of increasing demand.	
		b) Government and CPSU announce that all sectors of the economy will again be mobilized in a crash program to harvest the 1970 crop - reported in Pravda.	6
JUL	(151)	a) Brezhnev says that the government will increase agriculture investment by 70% under the new 1971 to 1975 Five Year Plan, the largest increase ever in such a program. At the same time, he pointed out to the Central Committee that agriculture has improved since he and Kosygin have assumed control of the party in 1964.	9
		b) Central Committee urges more government and party control of agriculture.	5
		c) Government announces increased bonuses for collective farm workers and private producers who exceed state quotas.	8
AUG	(152)		N/A
SEP	(153)		N/A
OCT	(154)		N/A
NOV	(155)	a) Although Soviet experts expect one of the largest grain harvests ever, the per capita output will be far short of needs. The expected harvest of 171+ million tons does not compare favorably with the needed 200+ million tons.	8
DEC	(156)		N/A

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
1971			
JAN	(157)		N/A
FEB	(158)	a)Government statistics report that USSR gross agricultural production rose 8.7% in 1970.	5
		b)Central Committee appropriates a significantly increased amount for agriculture investment under the new Five Year Plan.	6
MAR	(159)		N/A
APR	(160)	a)Premier Kosygin states to the 24th Communist Party Congress that a greater share of government investments will go into agriculture during the next five years.	8
MAY	(161)		N/A
JUN	(162)	a)Government announces a new minimum wage increase for collective farmers from 12 to 20 rubles.	7
JUL	(163)		N/A
AUG	(164)		N/A
SEP	(165)		N/A
OCT	(166)		N/A
NOV	(167)		N/A
DEC	(168)	a)U.S. Agriculture Department announces that Agriculture Minister Matskevich and a six-man delegation will visit the United States, possibly as a prelude to large-scale agricultural purchases by the Soviet Union.	5

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
1972			
JAN	(169)		N/A
FEB	(170)	a)Government reports show that in spite of 10% increase in agriculture investment, the production did not rise in 1971.	6
		b)As a reflection of concern over the gravity of farm problems, a conference of leaders of 15 agricultural republics is held in Moscow to discuss agriculture prospects for 1972 in the face of unusually cold weather which has decimated crops in southern regions.	5
MAR	(171)	a)Estimates show that one-third of the winter wheat which usually accounts for 30% of the annual crop has been destroyed making it unlikely that yearly goals will be achieved.	7
		b)Pravda editorial contends that support of private markets is national policy in spite of ideological considerations since improvement of the organization of trade in collective farm markets was one of the objectives at the current Five Year Plan.	4
APR	(172)	a)CPSU announces a wide ranging four year program to stem the migration of youths from the nations farms. The program will emphasize indoctrination of the civic importance of farming and the provision of better education and recreation facilities in rural areas.	6
MAY	(173)	a)Annual decree is made public to mobilize nation's manpower and resources for harvesting of farm crops.	6

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
JUN	(174)	a) CPSU and government issue a joint decree calling for greater stress on combining traditional school subjects with excursions to nearby farms.	3
JUL	(175)		N/A
AUG	(176)	a) U.S. Agriculture Department announces that Soviet Union will purchase $1 billion worth of farm products during the next year, $500 million of which will be for wheat.	10
		b) Brezhnev holds a high level meeting of party officials in Moscow to spur harvesting in the wake of unfavorable weather.	6
		c) Pravda discloses that a crash program is being conducted to insure adequate food supplies for Moscow region during winter of 1972 to 1973 because of damage to local crops from summer heat and drought.	8
SEP	(177)	a) Premier Kosygin affirms that unfavorable weather has caused severe problems in agriculture and states that care must be taken to prevent waste in view of crop failure in 1972.	6
OCT	(178)	a) Soviet planners announce significant reallocation of Five Year Plan investments to compensate for poor 1972 harvest. Government sources state that $29 billion has already been taken from 1972 and projected 1973 budgets of other ministries and applied to agriculture.	10
NOV	(179)	a) Agriculture Minister Matskevich concedes that previous estimates	8

APPENDIX II - TABLE II--Continued

Month	No.	Event	Value
		of the funds shifted are high - news conference in Moscow on 4 November.	
DEC	(180)		N/A

APPENDIX III

SPSS Program

APPENDIX III - TABLE I

COMPARISON OF EVENTS BY TIME PERIOD - APPENDIX I AND II

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
1958							
JAN	1	8	6	3			N/A
FEB	2	9	9	1			N/A
MAR	3	5	5	1	6	3.7	2
APR	4	6	4.5	4			N/A
MAY	5	1	1	1	6	6	1
JUN	6	7	7	1			N/A
JUL	7	7	5	2			N/A
AUG	8	4	2.5	2			N/A
SEP	9			N/A			N/A
OCT	10	3	3	1			N/A
NOV	11	4	3.5	2	3.7	3.7	1
DEC	12	5	3.5	2	3.3	2.5	4
1959							
JAN	13			N/A	3	3	1
FEB	14	1	1	1			N/A
MAR	15			N/A			N/A
APR	16			N/A	5.3	5.2	2
MAY	17	7	4.5	2			N/A
JUN	18			N/A	3	3	2
JUL	19	3	3	2	5.7	4.4	4

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
AUG	20	6	6	1			N/A
SEP	21			N/A			N/A
OCT	22	8	5.5	2			N/A
NOV	23	5	3.5	2			N/A
DEC	24	9	6.2	5	2	1.5	2
1960							
JAN	25	5	5	2	3	3	1
FEB	26			N/A	5.7	3.9	3
MAR	27	2	2	1	9	9	1
APR	28	6.5	5	2	3	3	1
MAY	29			N/A	5.3	5.3	2
JUN	30	4	4	2	5.3	2.8	4
JUL	31	7	5.5	2	5.3	5.1	3
AUG	32			N/A	3	2	2
SEP	33	3	3	1			N/A
OCT	34			N/A			N/A
NOV	35	4	4	2			N/A
DEC	36	6	5.5	2			N/A
1961							
JAN	37	9	7.8	4			N/A
FEB	38	9	7.2	5			N/A
MAR	39	8	7	3	5.7	5.7	1
APR	40	5	5	1			N/A

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
MAY	41	3	3	1			N/A
JUN	42			N/A			N/A
JUL	43	5	4.5	2			N/A
AUG	44	5	4.5	2	10	10	1
SEP	45			N/A	9.7	9.7	1
OCT	46	7	6	2	9.7	7.9	2
NOV	47	1	1	1			N/A
DEC	48	4	3.5	2			N/A
1962							
JAN	49	3	3	1			N/A
FEB	50	3	3	1			N/A
MAR	51	5	3.5	2	6	6	1
APR	52	5	5	2			N/A
MAY	53			N/A			N/A
JUN	54	7	5.5	2			N/A
JUL	55	5	3	2			N/A
AUG	56	7	4.5	2			N/A
SEP	57	5	5	2			N/A
OCT	58	5	5	1			N/A
NOV	59	10	8.7	3			N/A
DEC	60			N/A	5.7	5.7	1
1963							
JAN	61			N/A			N/A

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
FEB	62			N/A			N/A
MAR	63	6	6	3			N/A
APR	64			N/A			N/A
MAY	65			N/A			N/A
JUN	66			N/A	6	6	1
JUL	67			N/A	6	4.3	3
AUG	68	5	5	1			N/A
SEP	69	8	7	2	9.3	9.3	1
OCT	70	9	9	1			N/A
NOV	71	9	9	1			N/A
DEC	72	10	10	1			N/A
1964							
JAN	73	9	9	1			N/A
FEB	74	7	6	3			N/A
MAR	75	5	3	2			N/A
APR	76			N/A			N/A
MAY	77	3	3	1			N/A
JUN	78	4	4	1			N/A
JUL	79	5	5	1			N/A
AUG	80	6	6	1			N/A
SEP	81	3	3	1			N/A
OCT	82	10	5	2			N/A
NOV	83	6	5.3	3	3.7	3.7	1
DEC	84			N/A	9	9	1

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
1965							
JAN	85	5	5	2			N/A
FEB	86	5	5	2			N/A
MAR	87	9	7.5	2			N/A
APR	88	7	6	2			N/A
MAY	89			N/A			N/A
JUN	90			N/A			N/A
JUL	91			N/A			N/A
AUG	92	8	8	1			N/A
SEP	93	7	5.5	2			N/A
OCT	94			N/A			N/A
NOV	95	4	4	1			N/A
DEC	96	7	7	1			N/A
1966							
JAN	97	6	6	2			N/A
FEB	98	5	5	1	5.7	5.7	1
MAR	99			N/A			N/A
APR	100	5	5	1			N/A
MAY	101	4	4	1			N/A
JUN	102	9	6.5	2			N/A
JUL	103			N/A			N/A
AUG	104	8	8	1			N/A
SEP	105	5	4.5	2			N/A
OCT	106			N/A			N/A

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
NOV	107	8	8	1			N/A
DEC	108	7	7	1	6	6	2
1967							
JAN	109	7	7	1			N/A
FEB	110			N/A			N/A
MAR	111			N/A			N/A
APR	112	6	6	2			N/A
MAY	113	7	7	1			N/A
JUN	114			N/A			N/A
JUL	115			N/A			N/A
AUG	116	9	8	2	9.3	6	3
SEP	117	6	6	1	5	5	1
OCT	118	6	6	1			N/A
NOV	119	5	5	1			N/A
DEC	120			N/A			N/A
1968							
JAN	121			N/A	3	3	2
FEB	122			N/A			N/A
MAR	123			N/A	3.3	2.8	4
APR	124	2	2	1			N/A
MAY	125			N/A			N/A
JUN	126	3	3	1	9	9	1
JUL	127			N/A			N/A
AUG	128			N/A			N/A

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
SEP	129			N/A			N/A
OCT	130			N/A			N/A
NOV	131	4	4	1			N/A
DEC	132			N/A			N/A
1969							
JAN	133	2	2	1			N/A
FEB	134			N/A			N/A
MAR	135	4	4	1	9	9	1
APR	136	5	5	1			N/A
MAY	137			N/A			N/A
JUN	138	6	6	1			N/A
JUL	139			N/A			N/A
AUG	140			N/A			N/A
SEP	141	4	4	1			N/A
OCT	142			N/A	9	4.1	7
NOV	143	7	7	2	9.3	9.3	1
DEC	144	7	7	1			N/A
1970							
JAN	145			N/A	5.3	5.3	1
FEB	146			N/A			N/A
MAR	147	5	5	1	5.7	5.7	1
APR	148			N/A	5.3	5.3	1
MAY	149			N/A			N/A
JUN	150	6	5.5	2			N/A

APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
JUL	151	9	7.3	3			N/A
AUG	152			N/A			N/A
SEP	153			N/A			N/A
OCT	154			N/A			N/A
NOV	155	8	8	1			N/A
DEC	156			N/A			N/A
1971							
JAN	157			N/A			N/A
FEB	158	6	5.5	2			N/A
MAR	159			N/A			N/A
APR	160	8	8	1			N/A
MAY	161			N/A	9.3	8.1	3
JUN	162	7	7	1			N/A
JUL	163			N/A			N/A
AUG	164			N/A			N/A
SEP	165			N/A	3.7	3.7	1
OCT	166			N/A			N/A
NOV	167			N/A			N/A
DEC	168	5	5	1			N/A
1972							
JAN	169			N/A			N/A
FEB	170	6	5.5	2			N/A
MAR	171	7	5.5	2			N/A

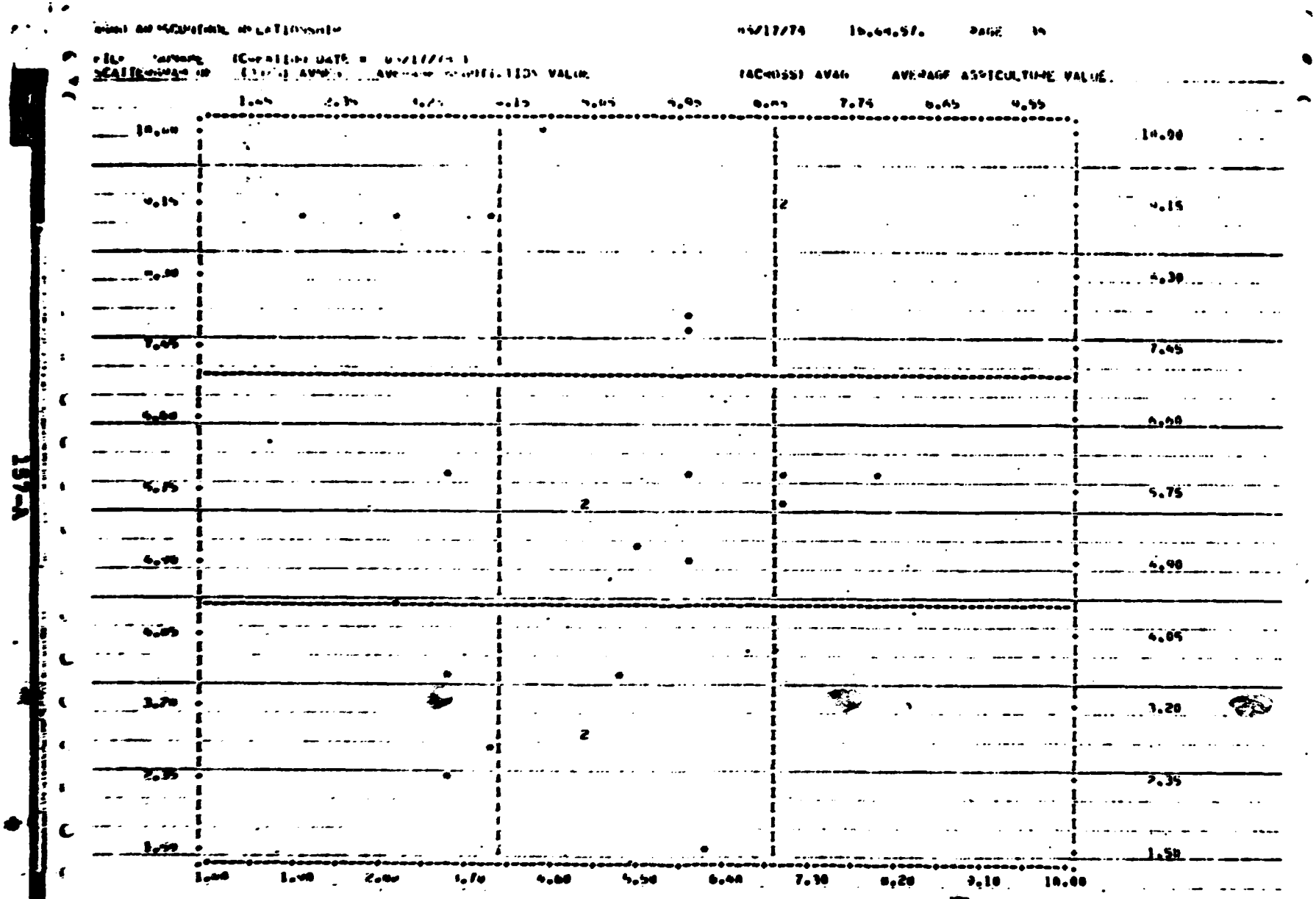
APPENDIX III - TABLE I--Continued

MONTH	PERIOD	AGRICULTURE EVENTS HIGH	AVERAGE	# EVENTS	NEGOTIATION EVENTS HIGH	AVERAGE	# EVENTS
APR	172	6	6	1	9.7	7.7	2
MAY	173	6	6	1	7.7	6	10
JUN	174	3	3	1			N/A
JUL	175			N/A			N/A
AUG	176	10	8	3			N/A
SEP	177	6	6	1			N/A
OCT	178	10	10	1			N/A
NOV	179	8	8	1			N/A
DEC	180			N/A			N/A

STATISTICS...AVNEG-AVAG SCATTERGRAM

CORRELATION (R)-	.04526
R SQUARED-	.00205
SIGNIFICANCE R-	.41496
STD ERROR OF EST-	2.52448
INTERCEPT (A)-	5.50612
STD ERROR OF A-	1.79332
SIGNIFICANCE A-	.00271
SLOPE (B)-	.07302

TEST #1



STATISTICS...AVNEG-HIAG SCATTERGRAM

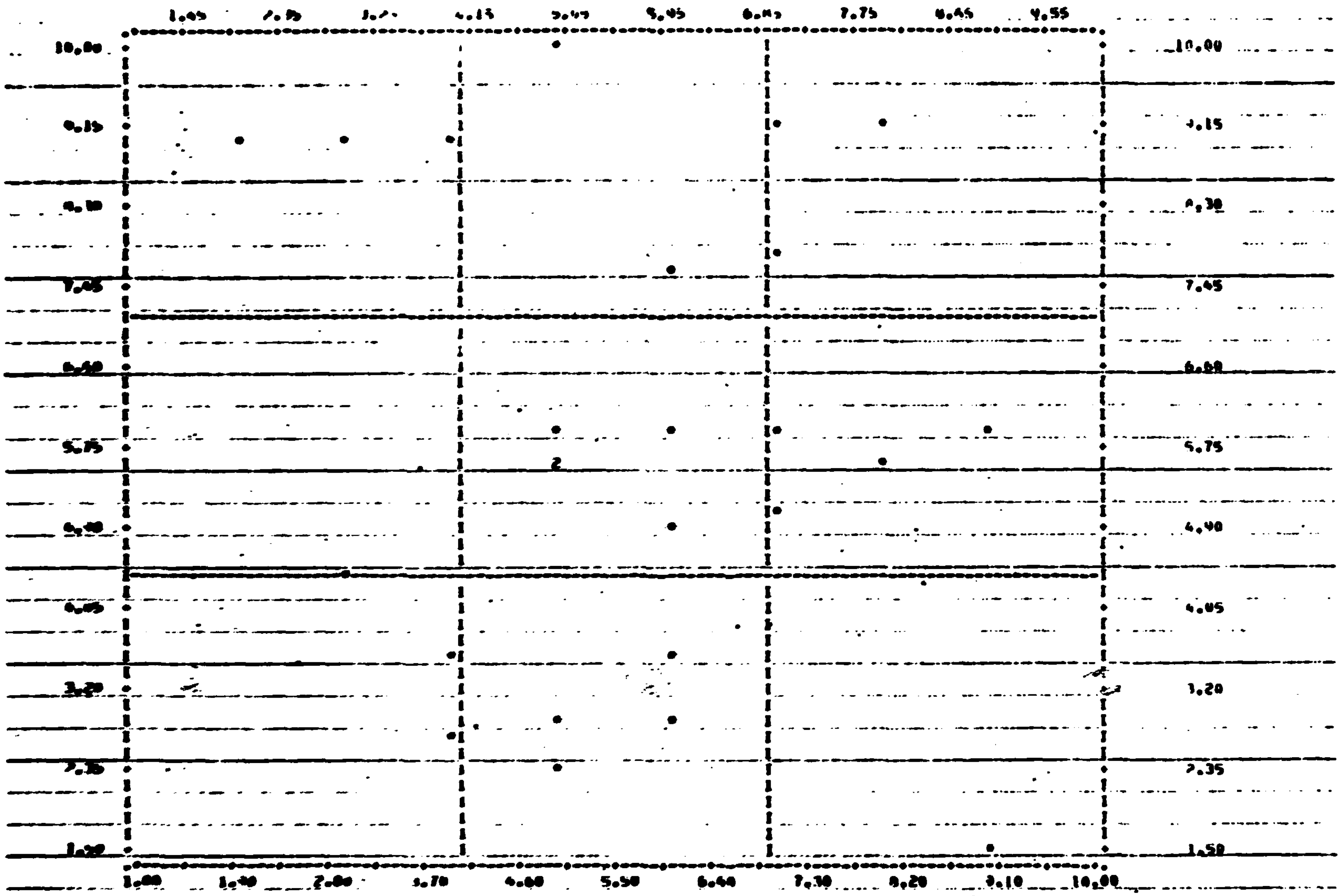
CORRELATION (R)-	-.11350
R SQUARED-	.01288
SIGNIFICANCE R-	.29453
STD ERROR OF EST-	2.51074
INTERCEPT (A)-	6.75660
STD ERROR OF A-	1.67699
SIGNIFICANCE A-	.00026
SLOPE (B)-	-.15433

TEST #2

05/17/79 10.44.57. PAGE 39

FILE (CREATION DATE =)

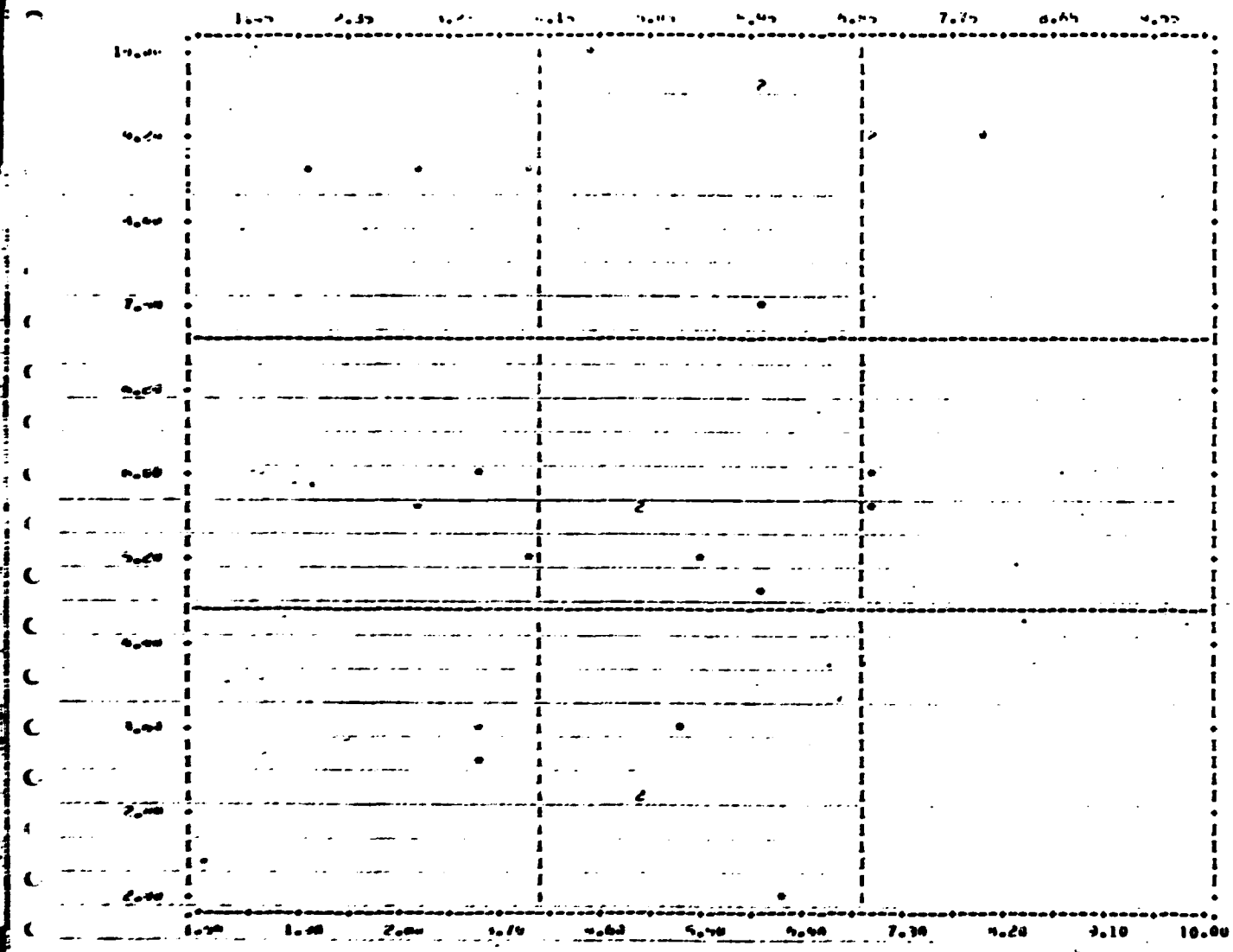
SCATTERGRAM OF ... AVERAGE ... VALUE (ACROSS) MEAN



STATISTICS...HINEG-AVAG SCATTERGRAM

CORRELATION (R)-	.13067
R SQUARED-	.01707
SIGNIFICANCE R-	.26679
STD ERROR OF EST-	2.57557
INTERCEPT (A)-	5.33433
STD ERROR OF A-	1.82961
SIGNIFICANCE A-	.00389
SLOPE (B)-	.21673

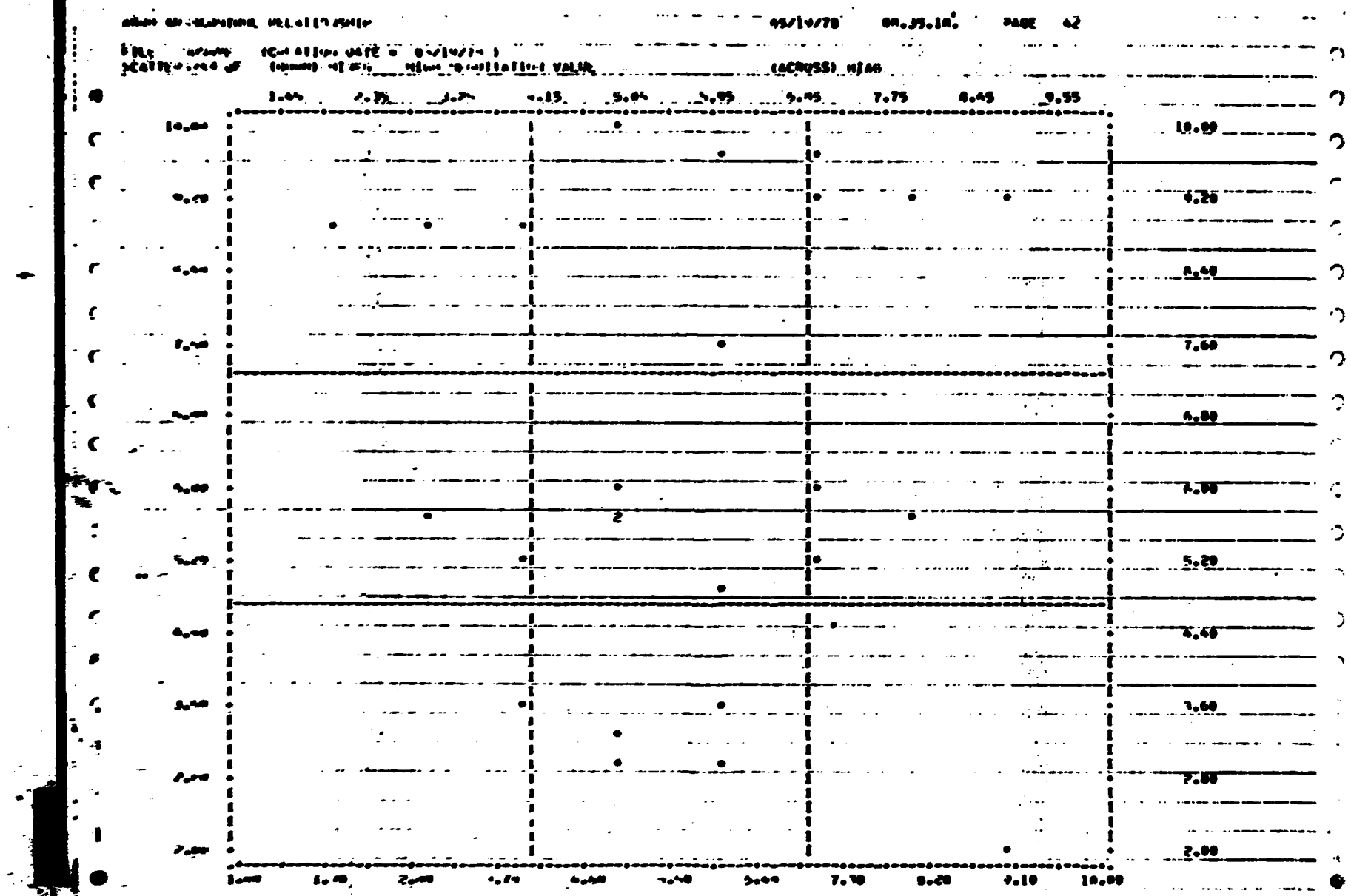
TEST #3



STATISTICS...HINEG-HIAG SCATTERGRAM

CORRELATION (R)-	-.03645
R SQUARED-	.00133
SIGNIFICANCE R-	.43133
STD ERROR OF EST-	2.59611
INTERCEPT (A)-	6.73343
STD ERROR OF A-	1.73401
SIGNIFICANCE A-	.00038
SLOPE (B)-	-.05096

TEST #4



STATISTICS...AVNEG-AVAG SCATTERGRAM(KHRUSHCHEV)

CORRELATION (R)-	-.00419
R SQUARED-	.00002
SIGNIFICANCE R-	.49385
STD ERROR OF EST-	2.73428
INTERCEPT (A)-	5.25418
STD ERROR OF A-	1.98189
SIGNIFICANCE A-	.00949
SLOPE (B)-	-.00751

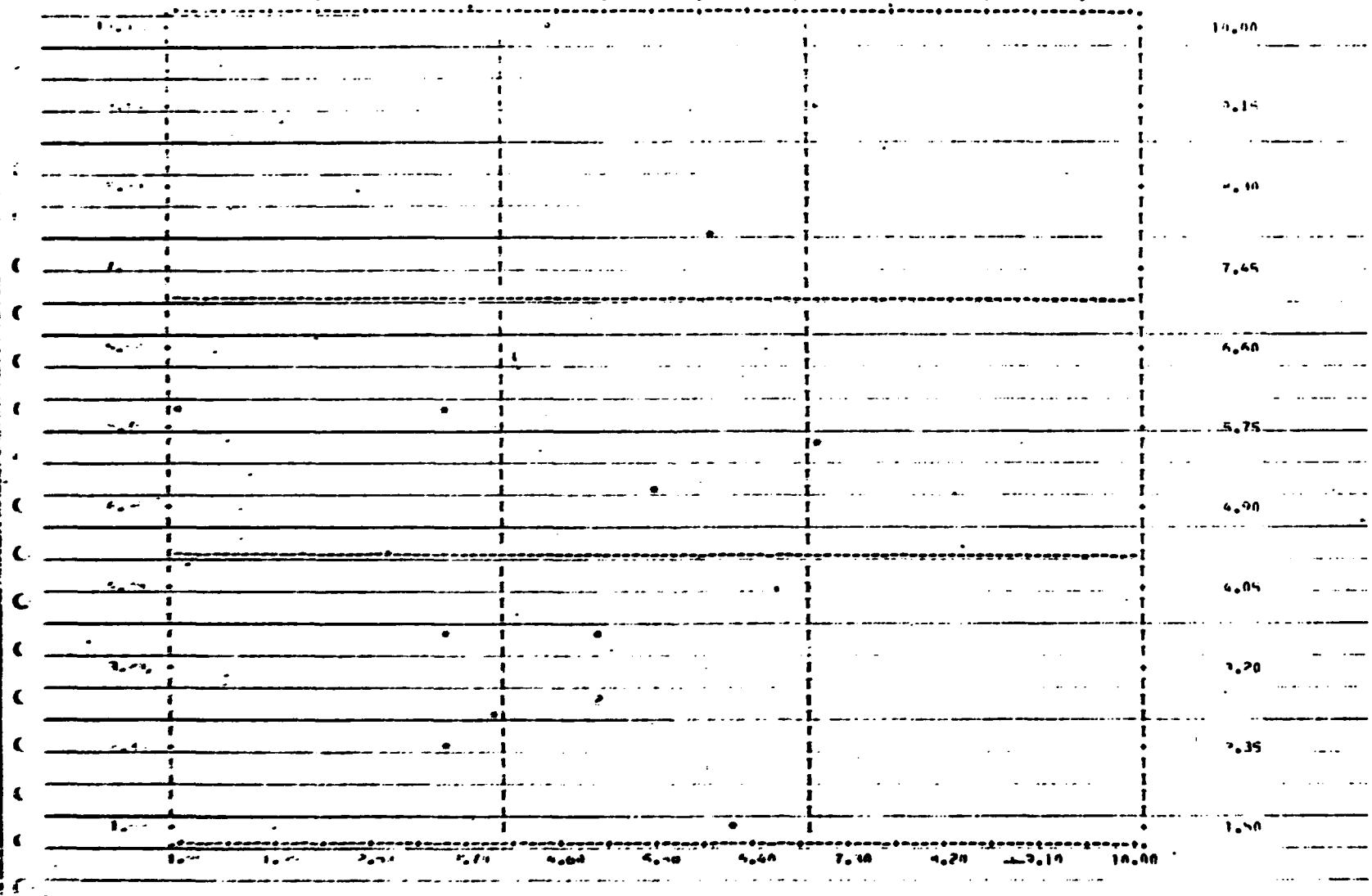
STATISTICS...AVNEG-AVAG SCATTERGRAM(POST-KHRUSHCHEV)

CORRELATION (R)-	-.27202
R SQUARED-	.07400
SIGNIFICANCE R-	.20920
STD ERROR OF EST-	1.86118
INTERCEPT (A)-	8.63218
STD ERROR OF A-	2.40900
SIGNIFICANCE A-	..00295
SLOPE (B)-	-.35079

TEST #5

AVNEG - AUNG

Khrushchev



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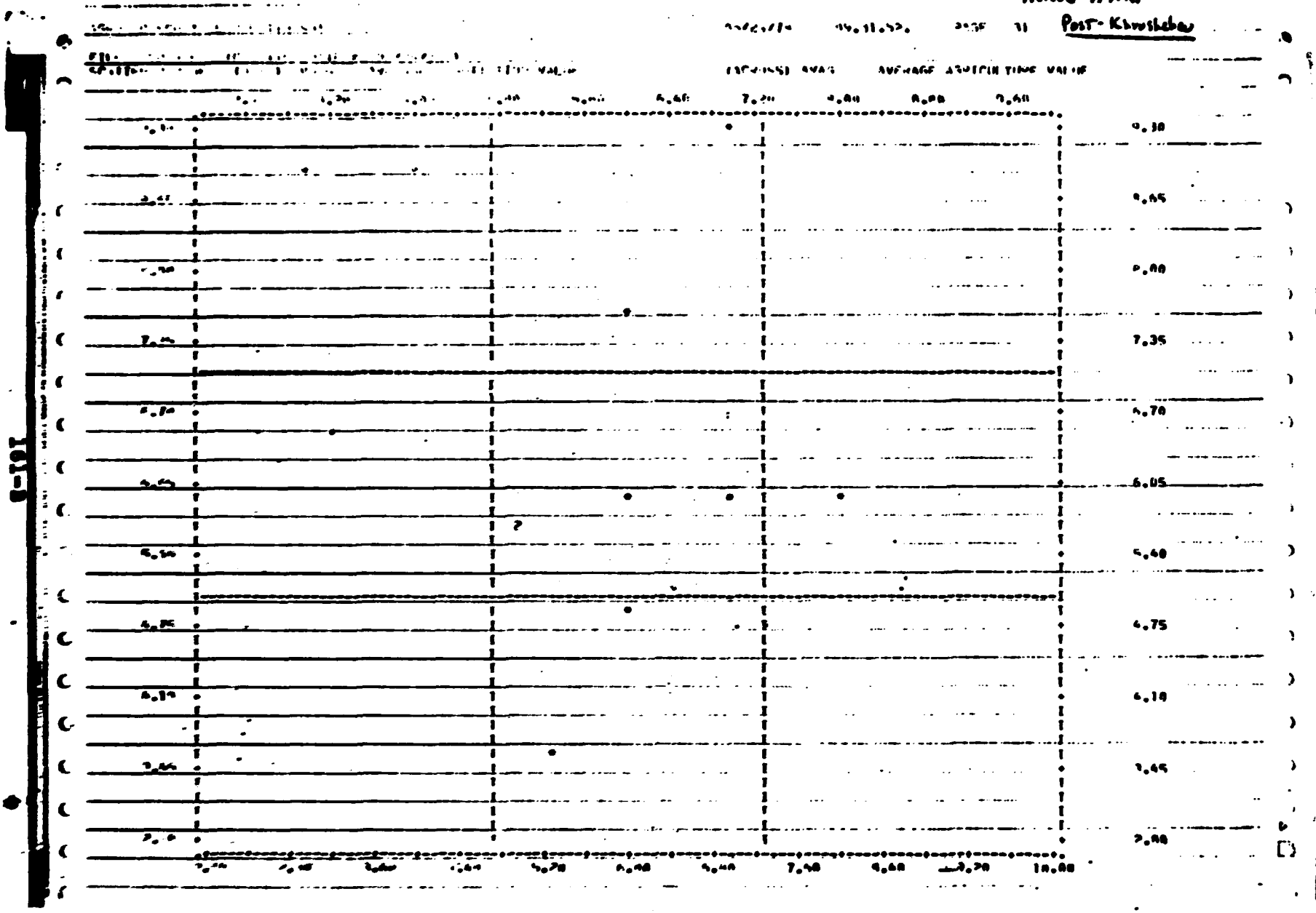
AVNEG - AVAG

Post-Klausleber



STATISTICS...AVNEG-HIAG SCATTERGRAM(KHRUSHCHEV)

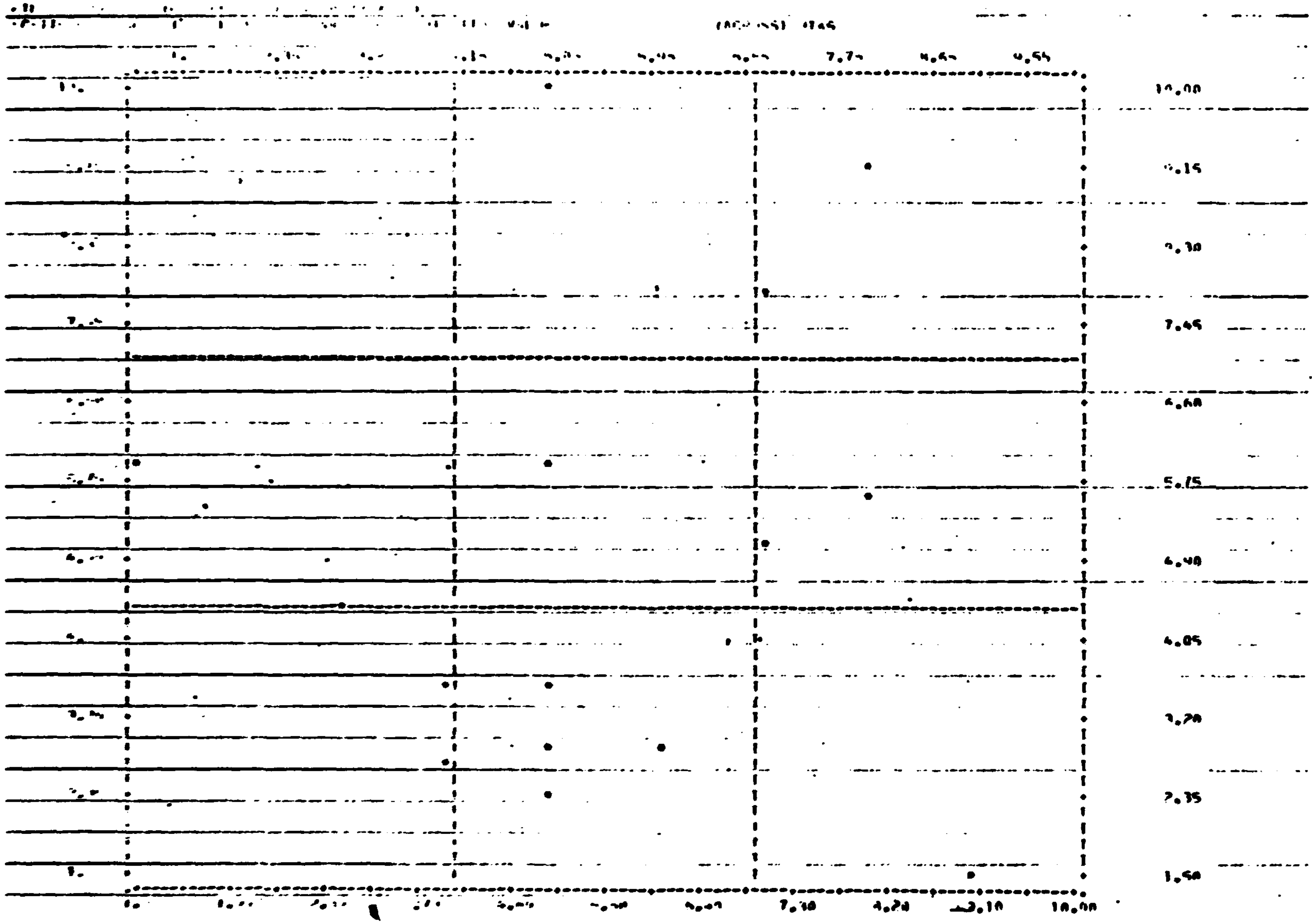
CORRELATION (R)-	-.08237
R SQUARED-	.00678
SIGNIFICANCE R-	.38084
STD ERROR OF EST-	2.72501
INTERCEPT (A)-	5.74281
STD ERROR OF A-	1.80771
SIGNIFICANCE A-	.00336
SLOPE (B)-	-.09863

STATICTICS...AVNEG-HIAG SCATTERGRAM(POST-KHRUSHCHEV)

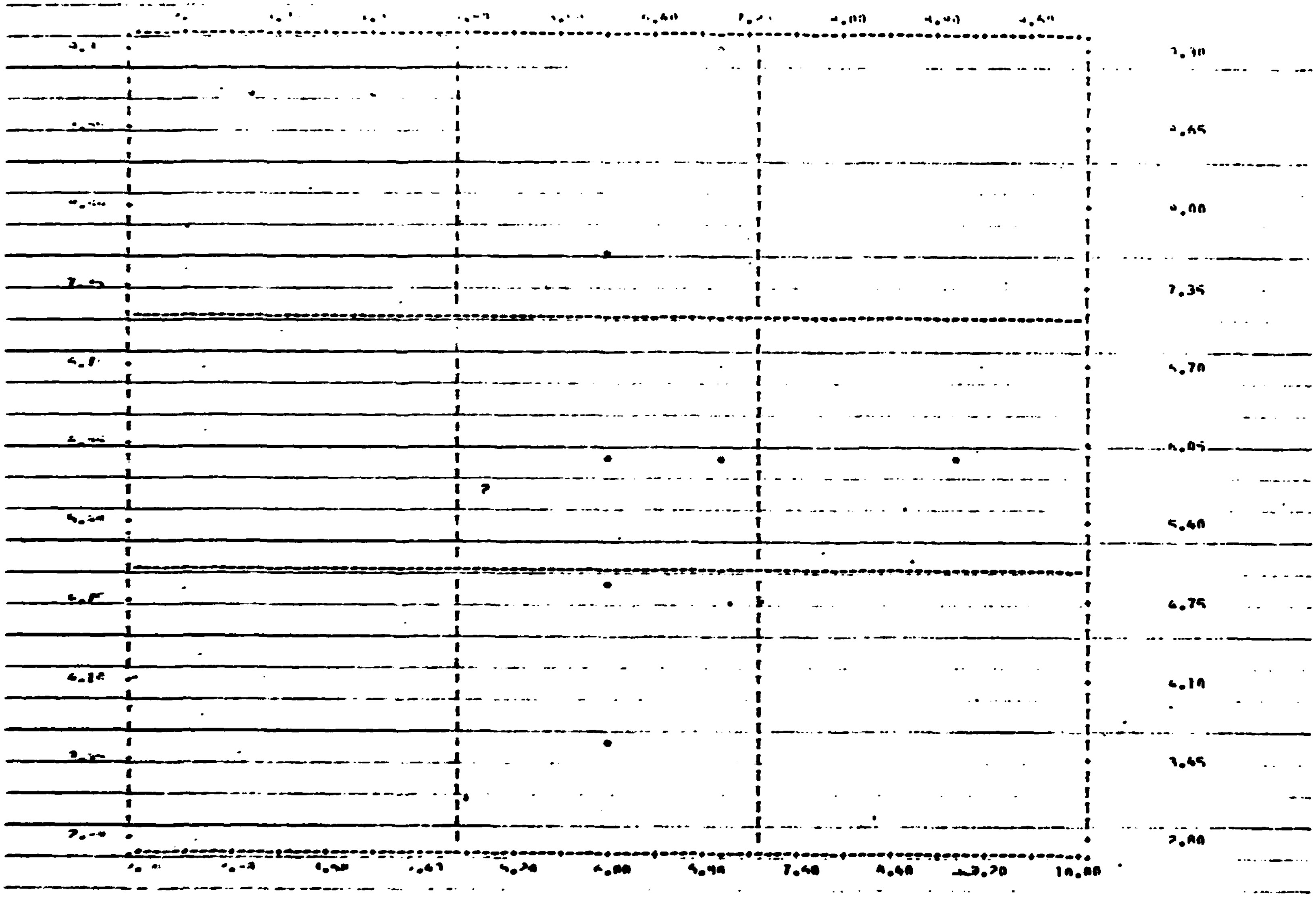
CORRELATION (R)-	-.33388
R SQUARED-	.11148
SIGNIFICANCE R-	.15781
STD ERROR OF EST-	1.82313
INTERCEPT (A)-	8.87163
STD ERROR OF A-	2.16588
SIGNIFICANCE A-	.00135
SLOPE (B)-	-.38262

TEST #6

AVHEG-HIAG



AVNEG - HIAG (Post Khrushchev)



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